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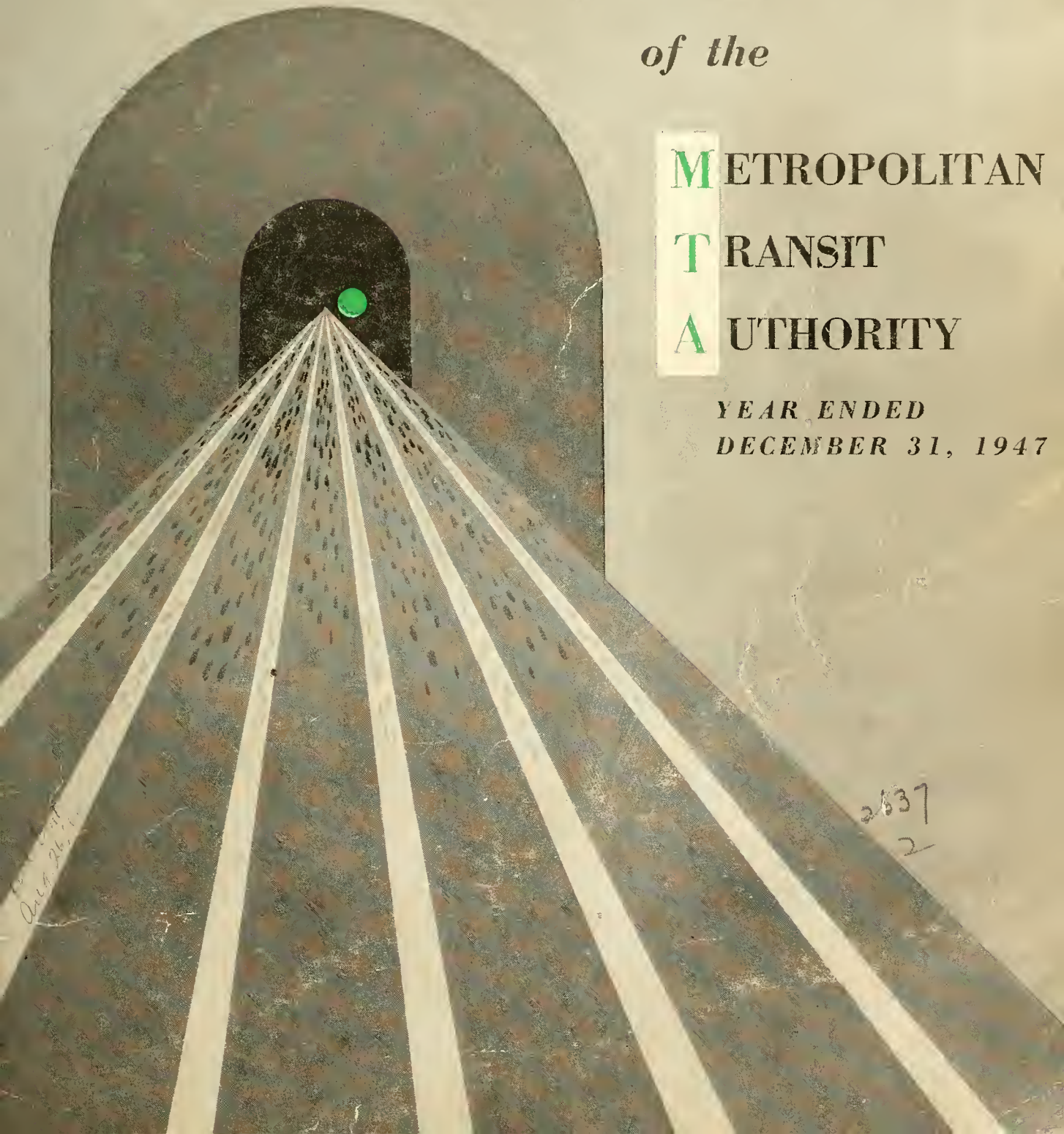
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The First Annual Report
of the
Board of Public Trustees
of the

METROPOLITAN
TRANSIT
AUTHORITY

YEAR ENDED
DECEMBER 31, 1947



Aug 26, 1947

2537
2

STATLER PARK
PARK SO-RHS TERMINALS
SOUTH STATION
POST OFFICE SQUARE
STATE STREET
AIRPORT



MTA SUBWAY BUSES

MTA SUBWAY

do your **SPRING** cleaning
via the **MTA**

FOR W...
S...
A...
T...
RIDE THE **M**
METROPOLITAN



FREQUENT SERVICE

FARE **10¢**

M·T·A BUSES

DIRECT TO
NORTH STATION
VIA **HAYMARKET SQUARE**
SOUTH STATION
STATLER PARK & COPLEY SQUARE
LOCAL BUSES TO
MAVERICK STATION

ALL BUSES CONNECT WITH M·T·A
RAPID TRANSIT SYSTEM

BUSES LEAVE FROM PLATFORM OUTSIDE

Metropolitan Transit Authority

Jamaica Pond

TAKE THE ARBORWAY CAR FROM PARK STREET

MTA BUSES TO SO

have fun!
CHARTER AN M.T.A. BUS
Schools-Clubs-Special Groups

- SAFE, COMFORTABLE 36 TO 40 PASSENGER BUSES
- ESPECIALLY TRAINED DRIVERS
- REASONABLE RATES

THE FIRST ANNUAL REPORT OF THE

BOARD OF PUBLIC TRUSTEES OF THE

METROPOLITAN TRANSIT AUTHORITY

YEAR ENDED DECEMBER 31, 1947

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BOARD OF TRUSTEES

*(appointed by the Governor of the Commonwealth of Massachusetts
pursuant to Chapter 544 of the Acts of 1947)*

CARROLL L. MEINS, Chairman

HENRY PARKMAN

HAROLD D. ULRICH

JOHN F. HURLEY

JOSEPH GANNON

GENERAL OFFICERS

(appointed by the Public Trustees)

EDWARD DANA, General Manager

JOHN H. MORAN,

Treasurer

WILLIS B. DOWNEY,

General Counsel

THOMAS A. DUNBAR,

Comptroller

CHARLES A. McCARRON,

General Claims Attorney

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**FIRST ANNUAL REPORT OF THE
BOARD OF PUBLIC TRUSTEES OF THE
METROPOLITAN TRANSIT AUTHORITY**

Foreword

The Public Trustees of the Metropolitan Transit Authority respectfully submit herewith their first annual report in accordance with the requirements of Section four, Chapter 544 of the Acts of 1947.

For the purpose of furnishing complete information, this report reviews the operations of the transit system for the calendar year 1947 and, in certain instances, discusses activities occurring up to the date of filing this report.

The Board of Public Trustees was qualified on July 2, 1947 and since that day has managed the affairs of the Authority. From January 1, 1947 to July 2, 1947, the operation of the railway system was under the direction of the Board of Trustees of the Boston Elevated Railway Company. Under the terms of Chapter 544 of the Acts of 1947, the Public Trustees of the Authority, on the effective date of their qualification; namely, July 2, 1947, succeeded to the offices of the Board of Trustees of the Boston Elevated Railway Company and, acting in their stead, managed and operated the then privately owned railway property in accordance with the terms of the Public Control Act of 1918 and subsequent amendments thereto. Since August 29, 1947, when the railway property was acquired by the Authority, the Public Trustees of the Authority have managed and operated the railway system in that capacity.

At present, the Metropolitan Transit Authority, a body politic and corporate and a political subdivision of the Commonwealth, is composed of the territory within, and the inhabitants of, the 14 cities and towns served by this railway system; namely, Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Milton, Newton, Revere, Somerville and Watertown.

Pursuant to the provisions of Chapter 544 of the Acts of 1947, the Public Trustees of the Authority exercised the option contained in Section 17 of Chapter 333 of the Acts of 1931 and at 12 o'clock noon on Friday, August 29, 1947, the Authority acquired the whole assets, property and franchises of the Boston Elevated Railway Company as a going concern.

On July 2, 1947, the effective date of the Public Trustees' qualification under Chapter 544 of the Acts of 1947, the Boston Elevated Railway Company, by action of its Board of Directors, filed a bill of complaint in the Massachusetts Supreme Judicial Court, seeking to enjoin the Metropolitan Transit Authority from attempting to exercise, in accordance with said Chapter 544, the option granted in 1931 to purchase the whole assets, property and franchises of the Company, or in the alternative to have a declaratory judgment entered determining the rights and duties of the Metropolitan Transit Authority with respect to the payment of Federal Income Tax on the capital gain which the bill alleged would result from the exercise of the option. This case was immediately trans-

ferred to the Superior Court which, after hearing, on July 8, 1947 denied the injunction but continued the suit as one for a declaratory judgment with regard to the capital gain tax question.

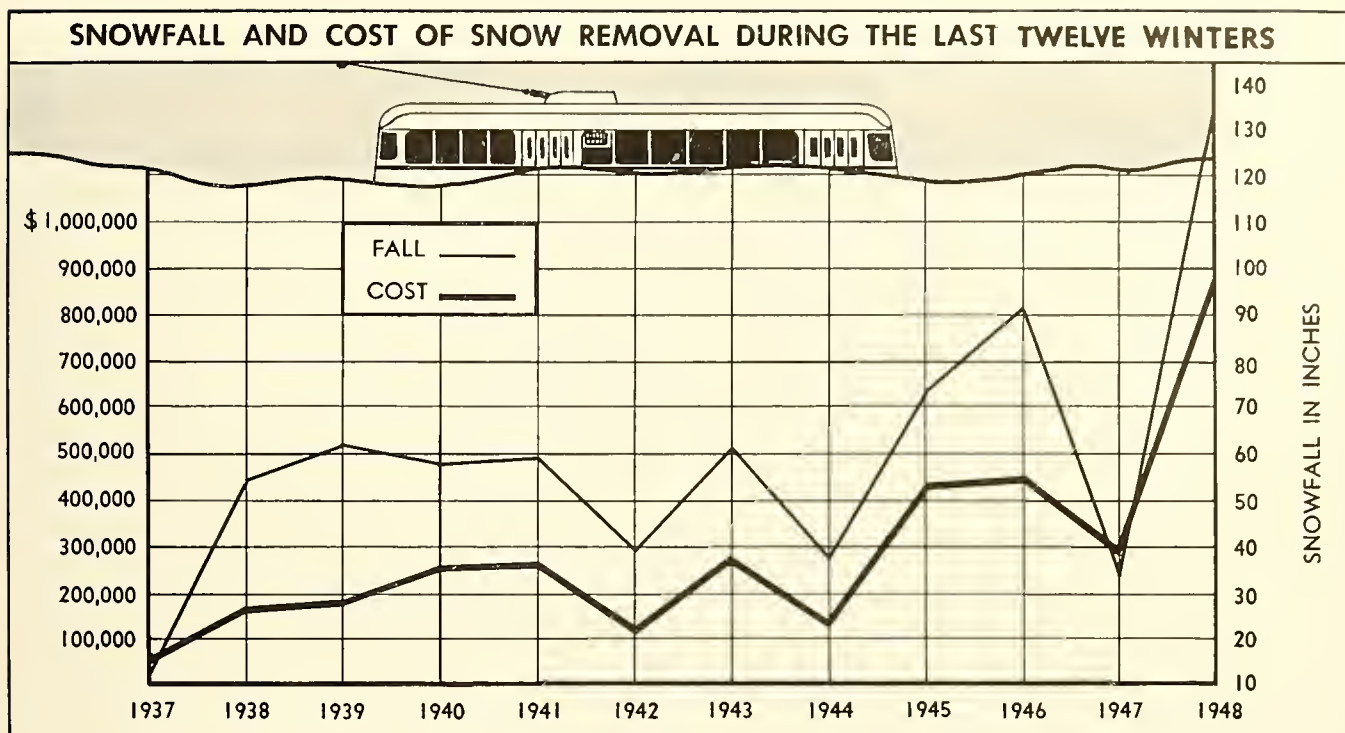
On August 19, 1947, the Boston Elevated Railway Company sought leave of the court to file a substitute bill of complaint which requested, among other things, that the Authority pay into court the purchase price to be paid pursuant to the exercise of the option, pending a judicial declaration of the Authority's obligations in respect to the assumption of the capital gain tax. On August 21, 1947, the Superior Court entered a consent decree declaring that the option granted under Chapter 333 of the Acts of 1931, had been validly and effectively exercised and that upon the payment and acceptance of the purchase price, as therein provided, the Authority would have assumed all the outstanding indebtedness and liabilities of the Company. The decree also provided that the suit might continue for a judicial determination of whether the Federal capital gain tax was among the "outstanding indebtedness and liabilities" so assumed. As part of this decree the Company's motion to file the substitute bill of complaint was denied. Thereafter, as previously stated, the Authority on August 29, 1947 paid over the option price, which was accepted by the Company, and took over possession and control of the properties under said Chapter 544.

Since that time, the pleadings in this suit have been completed and necessary action is now being taken to bring to trial the capital gain tax question.

On February 28, 1947, the Board of Trustees of the Boston Elevated Railway Company, acting under Chapter 92 of the Acts of 1947, borrowed \$3,000,000 from nine Boston banks and issued notes of the Company therefor dated February 28, 1947, maturing on December 1, 1947 and bearing interest at the rate of two and one-half per cent. per annum. These notes were outstanding when the Trustees of the Authority took over the management of the railway system and were assumed by the Authority in accordance with Chapter 544 of the Acts of 1947 when it acquired the property of the Company on August 29, 1947. On October 9, 1947, the cash position of the Authority was such that one-half the principal amount of these notes was paid with interest thereon to date of payment. The balance of the principal amount of these notes, with interest to date of payment, was paid on October 28, 1947 by application so far as necessary of the \$4,440,101.62 received from the Commonwealth pursuant to the provisions of Section 25 of said Chapter 544. Since payment of these notes was not due until December 1, 1947, the prepayments by the Authority resulted in a saving of interest at the rate of two and one-half per cent. per year.

With public ownership of the railway system, the Trustees gave immediate attention to the improvement of the service furnished to the passengers. Service on the main lines, both rapid transit and surface, was substantially increased during non-rush periods and increased service was also operated during the rush hours. Several new bus lines were started. A program designed to clean and repaint stations more often was adopted. New and improved directional signs are in the process of being erected.

From late December, operating conditions throughout the metropolitan transit area were the most difficult experienced for many years, with a record breaking snowfall of 136 inches, the heaviest since 1873. With one snowfall upon another, with narrowing of the highways in many places because of the banking of the snow, with large numbers of automobiles and trucks blocking the car tracks and bus routes, with extensive damage to electric car motors from flooded streets and with the large



number of additional passengers who turned to the railway for transportation during the “peak” hours of travel because of hazardous automobile driving conditions. — the energies of the railway management and personnel were, perforce, directed largely during the severe winter to keeping the lines open and operating. Virtually all transportation lines of the Authority were kept open throughout the severe winter, due in large part to the work of the entire personnel, many of whom were called upon to perform round-the-clock duty on many days and nights, including Sundays and holidays, and due in part to the superiority of the M.T.A.’s snow fighting equipment. In view of the tremendous obstacles that had to be overcome, the Trustees would like to record here their praise of the employees for a difficult task well done. An indication of the extent of the work involved is furnished by the expense of snow fighting this winter; namely, approximately \$875,000, the all-time high for snow removal costs.

In accordance with the general duty of the Trustees, as defined in Chapter 544 to improve the existing railway system, both rapid transit and surface, they will continue to devote their energies to providing still better service to the limit of their abilities for the benefit of the passengers. To this end, the Trustees have given much attention to plans for future service and plant changes.

Among them are: —

The construction of an additional subway between the Park street station and the Scollay square station and the enlargement and improvement of the Park street and Boylston street stations

in such a way as to provide for continuous platforms, thus creating modern facilities for a distributing terminal in the heart of Boston, — a subject about which the Trustees were specifically directed to make a study and estimate of costs and upon which they have already reported to the Legislature.

The extension of rapid transit facilities to Quincy and Braintree over the right of way of the Old Colony Division of the New Haven Railroad, — a subject on which the Legislature specifically directed the Trustees to make a study and estimate of costs, and upon which the Trustees have already filed plans and estimates of costs with the State Department of Public Utilities in accordance with Chapter 544 of the Acts of 1947.

The extension of rapid transit facilities from Orient Heights, East Boston, to Revere over the right of way of the former Boston, Revere Beach and Lynn Railroad.

The extension of rapid transit facilities beyond Harvard square, Cambridge, — another subject upon which the Trustees were specifically directed to make a study and estimate of costs.

The removal of the elevated structures and the construction of subways and other rapid transit facilities in their place, — a subject about which the Trustees were specifically directed to make a study and estimate of costs and upon which they have already reported to the Legislature.

The conversion to trackless trolley operation of practically all street car lines in the Roxbury-Dorchester area.

Elsewhere in this report, the Trustees will discuss in detail these proposed improvements.

NET RESULTS OF OPERATIONS

THE total income of the railway in 1947 was \$39,325,681.23. During the entire year, the regular 10-cent fare was in effect except for pupils' tickets and except for the privilege of a five-cent fare for children during the summer and during the Christmas holiday season. The discontinuance of the five-cent local ride at the end of 1946, by the previous Board of Trustees, resulted in an estimated increase in passenger revenue of approximately \$1,500,000 for 1947.

For the period from January 1, 1947 to August 29, 1947, the loss resulting from operations was \$3,112,608.98. After profit and loss credits of \$325,487.83, the excess of cost of service over income was \$2,787,121.15.

The Trustees should like to emphasize that on August 29, 1947, the day when the Authority acquired the railway system, the reserve fund of \$2,000,000 which the Legislature had provided under Chapter 544 of the Acts of 1947 to act as a "cushion" before assessment of deficits on the cities and towns in the district served had been exhausted as a result of the excess in the cost of service over income for the first eight months of 1947, during which period the property was operated under the Public Control Act with private ownership.

For the period from August 29, 1947 to December 31, 1947, the loss from operations was \$1,533,280.41. Profit and loss credits included in this period amounted to \$1,608,664.25, resulting in an excess of income over the cost of service of \$75,383.84.

For the entire calendar year 1947, the loss resulting from operations amounted to \$4,645,889.39 and after deducting net profit and loss credits of \$1,934,152.08, the excess of cost of service over income for the year was \$2,711,737.31. (The principal profit and loss credit, amounting to \$1,799,627.85, resulted

from the settlement of tax abatement cases with the cities of Boston, Everett and Cambridge.) The reserve fund of \$2,000,000 which, as previously indicated, had been exhausted by August 29, 1947, reduced the assessable deficit to \$711,737.31.

Operating Expenses

Operating expenses for the year 1947 saw a continuation of rising costs for wages, material and supplies. Upon a calendar year basis, the four major items constituting operating expenses showed an increase of \$2,314,220.87 in 1947 as compared with 1946. The increases in these four items were as follows:

Wages	\$1,061,787.66
Material and other items.....	350,279.12
Depreciation	485,680.55
Fuel	416,473.54

The cost of wages increased because of higher wage rates. The average wage per week for employees on the weekly payroll increased from \$56.63 in 1946 to \$59.38 in 1947.

The cost of materials and other items reflected the general increase in the prices of supplies and materials.

The depreciation charge, representing the minimum requirements deemed necessary for current depreciation, was increased primarily as a result of placing in service of new facilities, subject to depreciation, such as buses, cars and trackless trolleys, which replaced fully depreciated equipment.

The increase in the cost of fuel; namely, \$416,473.54, is a good illustration of the effect of higher prices. The cost of coal alone increased by \$403,779.47. Part of this increased cost is

due to an increased consumption and part to an increase of almost \$1.63 in the average price per ton of coal.

The cost of gasoline for buses increased \$69,043.03. Actually there was a decrease of 183.051 gallons in the consumption of gasoline in 1947, but the increased price of two and one-half cents per gallon resulted in the net increase of more than \$69,000 referred to above. Offsetting in small part the increased cost of fuel was a decrease in the use of fuel oil at power stations and of diesel oil for buses.

Fixed Charges

Fixed charges and miscellaneous items showed a net decrease of \$129,066.80 in 1947 as compared with 1946. The exercise of the option authorized by Chapter 544 of the Acts of 1947 eliminated the common shares of capital stock and the guaranteed dividends thereon from July 1 until the end of the year and thus halved the dividend charge from \$1,193.970 to \$596.985. The interest on bonds increased by a net amount of \$211,330.45. This net increase resulted from the issue to the Boston Metropolitan District by the Authority of \$22,868,000 principal amount of 25-year bonds, bearing interest at the rate of two and seven-eighths per cent. until June 1, 1958 and at the rate of three and seven-eighths per cent. thereafter to date of maturity. These bonds were issued under authority of Chapter 544 of the Acts of 1947 for three purposes: First, to exercise the option as authorized by Section

five of said Chapter 544. Second, to establish the \$2,000,000 reserve fund provided in this Act. Third, to refund \$570,000 principal amount of outstanding seven per cent. bonds of the former West End Street Railway Company, which bonds matured on September 1, 1947.

There was a net increase of \$211,146.71 in tax accruals during 1947 as compared with 1946. In 1947, there was a net reduction of \$159,470.41 in accruals for federal taxes, consisting of social security, gasoline and miscellaneous excise taxes: a saving due chiefly to the passage of Chapter 544 of the Acts of 1947. There was a further reduction of \$28,336.81 in miscellaneous taxes. On the other hand, the tax accruals on real estate and personal property, payable to the cities and towns in which the Authority has property of this character, showed an increase of \$398,953.93 in 1947 as compared with 1946.

The increase in local tax accruals, however, does not accurately reflect the actual condition with respect to local property taxes in 1947, nor does it indicate the tax accruals for this purpose for years subsequent to 1947. As already stated, in 1947, certain of the communities served made substantial refunds to the Authority in settlement of overassessment of property taxes applicable to 1947 and to prior years. The refunds received from the cities concerned, totaling \$1,799,627.85, were applied, as previously explained, as profit and loss credits to reduce the assessable deficit by that amount.

BURDEN OF FIXED CHARGES

THE fixed charges consist of taxes; subway, tunnel and rapid transit line rentals; interest on bonds; and rentals of leased roads.

Fixed charges in 1947 totaled \$9,513,852.16 and constitute too heavy a burden for the Authority to carry within its present income.

The operating expenses of the railway have always been well within the income of the railway. In 1947, after operating expenses, but before taxes and other fixed charges, the balance available to be applied toward fixed charges was \$4,867,962.77.

In connection with the payment of local real estate taxes, the Trustees would like to point out that the property of the Chicago Transit Authority, a public authority which has recently taken over the operation of surface and rapid transit lines in the Chicago area, is exempt from local taxation.

The Metropolitan Transit Authority and its predecessor, the Boston Elevated Railway Company, paid \$2,839,182.99 in 1947 for subway, tunnel and rapid transit line rentals.

There are only three other cities in the United States which have extensive rapid transit facilities; namely, New York, Chicago and Philadelphia.

In New York City, all the carrying charges on the subway investment are being paid from general taxation.

In Chicago, the operating agency has not paid any rental for the publicly owned subway since it was opened in October, 1943. A charge for the use of the publicly owned subway, and for the use of any future additions thereto, is to be paid by the Chicago Transit Authority only if earnings permit any payment after all other charges have been met.

In Philadelphia, the operating company pays only a part of the carrying charges on some of the rapid transit lines.

Here in Boston, rentals on practically all subways and tunnels are a part of the railway's cost of service. Nowhere else in the United States where subways exist is the operating agency obliged to pay the same high proportionate carrying charge on the investment for their construction.

In Boston, the subway and tunnel rentals at present paid by the Authority cover not only the interest on the bonds issued to obtain the money to construct these subways and tunnels, but include also an additional sum for the eventual retirement of the bonds. As of December 31,

1947, subway and tunnel rentals paid by the railway had paid off or provided for the retirement of more than 45 per cent. of that part of the subway debt incurred by the City of Boston and by the Commonwealth of Massachusetts upon which the Authority pays rentals.

Subways are in effect underground streets for the use of rapid transit passengers. One of the powerful arguments for their construction has been the relief which they bring to street traffic. Already, the Massachusetts Legislature has recognized that the entire carrying charges on the cost of constructing subways, tunnels and rapid transit extensions should not be borne entirely by the users of the rapid transit facilities.

Chapter 544 of the Acts of 1947 confirmed the underlying principle of earlier legislation and provided that the carrying charges on the three most recent subway and tunnel extensions should be paid out of general taxation by the cities and towns comprising the transit area in the same proportion that deficits arising from operations are assessed.

These three extensions are: The extension of the Boylston street subway under Kenmore square and under Beacon street and Commonwealth avenue; the extension of the Boylston street subway under Exeter street and under Huntington avenue to Opera place; and the extension of the East Boston tunnel from Maverick station to Orient Heights.

Because of the increasing importance in the years ahead of this question of the carrying charges of subway, tunnel and rapid transit extensions, the Trustees believe that consideration should be given by the Legislature, by the municipalities concerned, by civic organizations and by the public in order to arrive at the determination of a fair and equitable division of the carrying charges as between the car riders and the taxpayers.

REDUCTION IN PUBLIC DEBT

DURING 1947, from payments made by the railway for interest and subway and tunnel rentals, the railway made available the sum of \$3,304,646.40 for the retirement of public debt.

The amount was divided as follows:—

Boston Metropolitan District	
for retiring District bonds	\$2,434,982.52
City of Boston	
for retiring subway and rapid transit debt	755,643.88
Commonwealth of Massachusetts	
for retiring Cambridge subway debt	114,020.00
Total	<u>\$3,304,646.40</u>

PRESENT FINANCIAL PROBLEM

OPERATING expenses in 1947 totaled \$34,307,679.92, an increase of \$2,267,223.20 as compared with 1946. Fixed charges and miscellaneous items totaled \$9,663,890.70, a decrease of \$129,066.80. The total cost of service in 1947 was \$43,971,570.62, or \$2,138,156.40 higher than in 1946. The loss from operations in 1947 was \$4,645,889.39.

These figures present the financial problem facing the Trustees of the Authority and the people in the cities and towns constituting the Authority.

Public ownership of the railway system did not solve all of the financial problems concerned with the operation of the transportation system in this area. The remaining burden of fixed charges is still much too heavy for the railway system to absorb within its present income. The effect of inflation on the price of materials, supplies, equipment and the cost of wages makes the financial problem even more

difficult. This inflationary influence upon railway operations is best illustrated by a comparison of pertinent data for 1947 with 1920. The latter year was the first complete year during which the 10-cent fare became effective. The year 1947, likewise, had a 10-cent fare.

The table below compares these two years.

	1947	1920
Revenue Passengers ..	388,573,222	335,526,561
Revenue Miles	54,969,812	51,359,855
Operating Wages	\$24,184,550.97	\$17,216,445.20
Total Operating Expenses	\$34,307,679.92	\$25,769,122.11
Total Cost of Service	\$43,971,570.62	\$34,378,803.68
Total Income	\$39,325,681.23	\$34,031,636.44
*Average Fare	9.82c	9.87c
Operating Wage per Passenger	6.22c	5.13c
Total Operating Expenses per Passenger	8.83c	7.68c
Total Cost of Service per Passenger	11.32c	10.24c
Total Income per Passenger	10.12c	10.14c

*Includes pupils' tickets.

The above table brings out the fact that at the 10-cent fare a deficit from operations is inescapable under present conditions. Without change in these conditions—such as would result from the reduction or elimination of subway rentals, from adjustment of local real estate taxes, from lower costs, from higher income through increased passenger use of the existing railway system or from extensions of the system,—the present total cost of operating the railway cannot be met with the revenue accruing from the same fare which was charged for the service 28 years ago.

The railway system represents an investment in property of \$182,000,000, a property now entirely owned by the public and dedicated to provide transportation for the people. The economic well-being of the metropolitan area

depends upon this system. The public is entitled to better transportation service and to improved transportation facilities. The problem which faces us is how should the costs of providing improved service and facilities be met. Should

meeting these costs be the responsibility only of those who use the system or should part of them be borne by others who benefit from the availability of fast, convenient and economical transportation in a large metropolitan area.

SERVICE AND PLANT IMPROVEMENTS

IN order to provide better facilities, a number of changes in service or plant were either made or were started during 1947. A brief account of the more important of these changes follows.

New Trackless Trolley Service

Under authority of the previous Board of Trustees, trackless trolley service was substituted on April 19, 1947 for car and bus service on the line operating between Salem street carhouse, Medford, and Sullivan square station, via Winter Hill. This service required 25 trackless trolleys. In connection with this change, an early morning trackless trolley service was started from 1:30 a.m. to 4:30 a.m. from Sullivan square station to Lebanon street, Malden, and from Sullivan square station to Linden. At the same time, the early morning service which had been operated between Sullivan square station and Salem street carhouse was extended to Elm street, Medford, furnishing new early morning transportation to the Fellsway area.

On September 13, 1947, trackless trolleys were substituted for buses on the line operating between Davis square, Somerville, and Sullivan square station, via Highland avenue, Cross street and Broadway.

New Bus Service

On December 1, 1947, bus service was resumed in the downtown area on the line between the intersection of Dover street and Shawmut avenue and the intersection of Berkeley street and Columbus avenue, via Shawmut avenue, Dwight, Berkeley and Stuart streets and Columbus avenue.

From December 6, the West street and Metropolitan avenue bus service in Roslindale and Hyde Park was extended to operate as far as the intersection of Kittredge and Washington streets, near Roslindale square, and as far as the intersection of Winthrop street and Hyde Park avenue, near Cleary square.

A new bus line operating between the South End and the Back Bay was started on December 13. This service operates as a belt line from the intersection of Harrison avenue and East Concord street, via East Concord, Washington, West Newton streets, Huntington avenue, Copley square, Dartmouth, West Dedham, East Dedham streets and Harrison avenue. This line serves a large number of institutions and public places, including hospitals, schools, churches and railroad stations.

Plans for bus service between the North Station and the Logan International Airport and between the South Station and the Airport were completed in 1947 and operations commenced on January 17, 1948.

On February 28, 1948, the bus line operating between the Airport and the South Station was extended to Copley square, thus connecting the Airport with the Park square bus terminal area, Statler Park and Copley square.

The route between the Airport and the North Station is via Porter street, Sumner Tunnel, Cross street, Haymarket square, Canal, Causeway and Nashua streets. The route between the Airport and Copley square is via Porter street, Sumner Tunnel, Cross, North, Congress, Milk,

Federal, High and Summer streets and Atlantic avenue. Kneeland, Stuart and Eliot streets, Columbus avenue, Stuart and Dartmouth streets and Huntington avenue; returning over Stuart and Kneeland streets, Atlantic avenue, then Federal street and reverse route.

For the first time, by means of these two lines and the existing bus line operating between the North and South Stations, direct bus service connects these three important transportation terminals. The regular 10-cent fare is charged.

The buses used are of the same modern metropolitan type as are operated on other lines with special space provided for personal luggage within the buses by rearrangement of seats.



Group at start of Back Bay-South End Bus Line



Interior view of an Airport Bus

Alterations at Clarendon Hill Carhouse

Alterations, which were authorized by the previous Board of Trustees to adapt the Clarendon Hill carhouse for the maintenance of trackless trolleys, were completed during 1947. This building has a capacity of 79 vehicles. The westerly section of the carhouse has a new entrance at the north end. A new floor, complete with repair pits, was laid at the proper level to accom-

modate the trackless trolleys. New heating equipment, sprinkler and pipe systems have been installed. This westerly section is being used as a repair unit, equipped with hoists, lubricating and greasing apparatus. The easterly section is being used as a storage area. In this area, a new power machine to wash trackless trolleys was installed and has been in operation since February 17, 1948.

Installation of Modern Power Washing Machines

As additions to the existing automatic washing machines at Reservoir carhouse, Bartlett street garage and Clarendon Hill carhouse, similar washing machines are being provided at other locations in order to improve the exterior appearance of surface cars, buses and trackless trolleys.

A machine for washing trackless trolleys was installed at the Everett carhouse and has been in use since March 22, 1948.

A power machine for the washing of surface cars is being installed at the Watertown carhouse and this work is expected to be finished by June 1, 1948.

Another machine to wash surface cars has been authorized for the North Point carhouse and will be installed this year.

These washing machines have proved to be an efficient and effective means of cleaning the exterior of surface vehicles and the Trustees intend to expand their use.



New Power Washing Machine

Modern Information Booth and News Stands

The information booth on the southbound platform of the Park street station was replaced with a modern booth at a new location. This booth is constructed of stainless steel, structural glass and plywood. Indirect lighting is furnished by fluorescent tubes. The signing is with neon tubing.

Five news stands of like construction were built during the fall of 1947 to replace news stands that were originally constructed at the time the subways were opened. These new stands are located as follows:—Two are at the Park street station, one on the southbound platform and the other on the northbound platform; one at the Boylston street station on the southbound platform; one in the Washington station concourse of the Dorchester tunnel and one at the Winter station of the Washington tunnel.

Because the business done at these five new news stands increased substantially, the Trustees authorized four more new news stands at the following locations: On the northbound platform at the Sullivan square station, on the eastbound platform at Harvard Station, near the Water street entrance at Milk station, and at the Summer station platform.

The new information booth and news stands have been a convenience to the passengers and have improved the appearance of the stations.

Improvements in Boiler Plant, South Boston Power Station

Major alterations in the boiler plant are in progress at the South Boston power station. The work involves the removal of two large stokers and their furnaces and their replacement with water-cooled furnaces and firing equipment which will permit the burning of oil and pulverized coal.

The changes in one of the large units have been completed so that oil and coal can be burned in the rebuilt unit. Work on the changes in the second unit is well advanced.

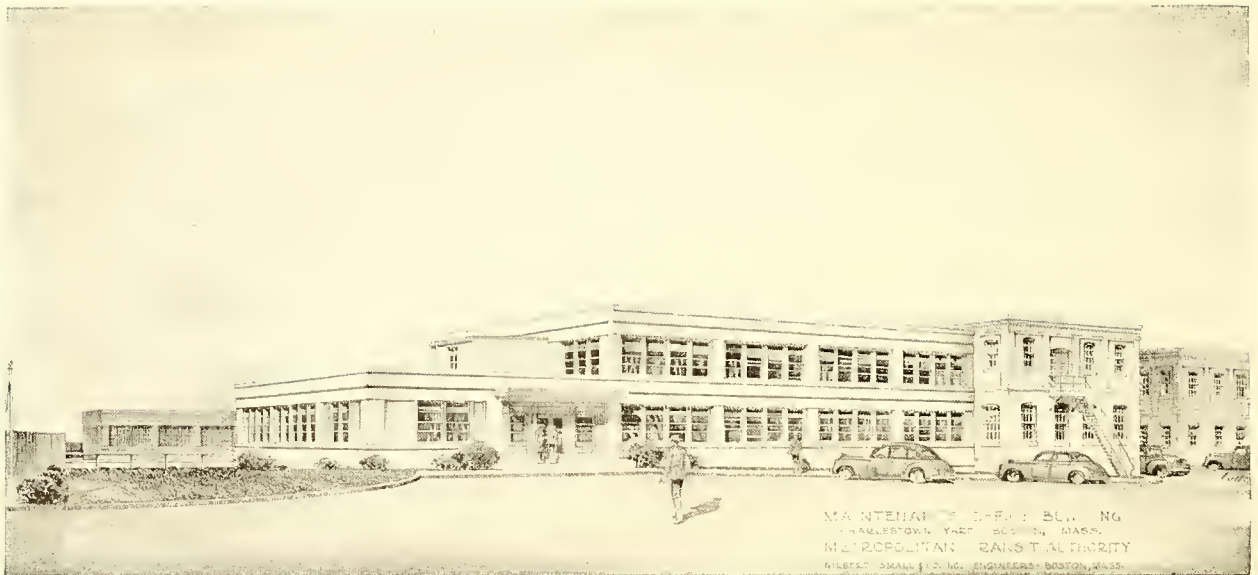
Some of the material has been received for the installation of electrostatic precipitators on both units in order to remove fly ash from the gases. This equipment will reduce the volume of dust given out to the atmosphere. For one boiler, this equipment will be in operation in May and for the other boiler in July.

When this installation is completed and in operation in July, 1948, then the larger and more efficient units in this station will be equipped to burn whichever fuel, coal or oil, is more economical and more available. The older stoker-fired units will be relegated to standby equipment for use to a small degree during extremely heavy load periods or, if required, during overhaul periods of the larger pulverized coal and oil fired units.

Office Building, Maintenance Department

Early in November, 1947, construction was started on a new office building at the Charlestown yard for the maintenance department. In this building will be consolidated the supervisory and office forces of the maintenance department which have quarters now at the Park Square Building and at the Sullivan square terminal and at the Charlestown yard. Greater efficiency will result from this consolidation of office forces. Moreover, economies which will follow will not only suffice to pay the carrying charges on the cost of the new building but will bring about an estimated net annual saving of approximately \$5,000.

Construction work has been carried on throughout the winter. The foundations and first floor have already been completed. All materials required for the new building are available. The



work should be completed and the building ready for occupancy in the early summer of 1948.

New Seating Arrangement for Center-Entrance Cars in Subway Service

The Authority is now operating in subway service a number of center-entrance cars with longitudinal instead of cross seats. The first three of these cars were placed in service on February 10, 1948 and have given satisfactory service. Because these cars will perform a useful service, the Trustees have authorized the rearrangement of seats in a total of 30 center-entrance cars.

These cars are to be used primarily in the subway to take care of the heavy volume of traffic between stations. They will also be used to transport passengers going to baseball, basketball and hockey games and to other events attracting large crowds.

Placing the seats along the sides of the cars resulted in a much wider aisle, providing for the free movement of passengers, allowing them to

move more readily to either end of the car, thus leaving the center well-way clear for passengers to board and leave with ease. This speed of getting on and off cars is especially desirable for trips within the subway and results in shorter stops at stations for interchange of passengers.

The cars have been newly painted inside and outside with a different interior color scheme: Two tones of green, light and dark, instead of the traditional cherry.

"Booster" Heaters in Buses

During the past winter, the Authority experimented with so-called "booster" heaters in gasoline buses. A booster heater is a gasoline burning device, drawing fuel from the main gasoline tank and burning it in a small burner like the home oil burner. It functions automatically and supplies heat to the interior of the bus if the heat from the engine is not sufficient to keep the interior comfortable. It also functions to maintain the correct engine temperature when a bus is standing.

Four buses equipped with booster heaters were in operation through part of this past winter. Fourteen buses also equipped with these heaters were in operation for only a short part of the winter.

So far, the experience of the Authority with these heaters has been satisfactory from the point of view of maintaining adequate heat within the bus and maintaining the correct temperature of the engine.

A further objective being investigated with respect to these heaters is the possibility that their use may reduce the necessity for complete indoor winter storage of gasoline buses, thereby reducing the amount of garage investment which might be needed in the future. The buses which were equipped with these heaters were stored out-of-doors this winter and performed satisfactorily in passenger service.

SERVICE AND PLANT CHANGES IN PROCESS

SEVERAL important changes improving the service are either in the process of construction or installation or work on them will shortly begin.

Extension of the East Boston Tunnel

The East Boston rapid transit extension from Maverick station to Orient Heights, authorized by Chapter 692 of the Acts of 1945 as amended by Chapter 494 of the Acts of 1946, is now being constructed by the Transit Department of the City of Boston. The Transit Department expects to have the extension completed for use by July 1, 1950.

With the thought that rapid transit service should be extended beyond Orient Heights to Revere and thus provide for improved facilities in Chelsea and Revere, the previous Board of Trustees acquired the right of way of the former Boston, Revere Beach and Lynn Railroad, known as the "Narrow Gauge," as far as Revere street, Revere.

Plans and estimates of costs have been prepared by the Authority for extending the line to Revere in the vicinity of the present Ocean avenue loop. The plans provide for four stations; namely, Suffolk Downs station, located near the existing Gladstone street loop; Beachmont station, located southerly of Winthrop avenue;

Crescent Beach station, located southerly of Beach street and Bath House station, located opposite the present Ocean avenue loop.

The surface routes that have been tentatively laid out to be operated after the East Boston tunnel has been extended from Maverick station to Orient Heights station and further extended from Orient Heights station to Bath House station would all feed into rapid transit stations, thus greatly improving the transit services for the residents of Chelsea and Revere.

The Trustees believe that rapid transit facilities from Orient Heights station to Revere should be provided.

Trackless Trolley Expansion in the Roxbury-Dorchester Area

The first part of the conversion from trolley car to trackless trolley operation in the Roxbury-Dorchester area, authorized by the previous Board of Trustees, is expected to be completed during 1948. This conversion includes those lines operating between Fields corner station and Andrew station; Uphams corner and Dudley station; Ashmont station and Dudley station and between Ashmont station and Fields corner station.

For these lines, 90 new trackless trolleys will

be required. Delivery of them is expected in the latter part of 1948.

The installation of the necessary overhead line construction has been in progress during 1947. The detailed plans for the alterations at the Fields corner, Ashmont, Andrew and Dudley stations are completed and the actual work on the necessary changes at these stations has already been started. In doing this work, the various operations will be scheduled with minimum interference to service.

Alterations will also be made to the Fields corner carhouse for servicing the trackless trolleys. Performance of this work has been planned in such a way as to provide for the continued operation and servicing of trolley cars and of trackless trolleys during the change-over period.

The work incidental to the conversion of the lines running between Grove Hall and Dudley station, Seaver street loop and Dudley station and Fields corner and Dudley stations is expected to be completed by the spring of 1949, when delivery of the 38 additional vehicles needed is planned.

Improved Ventilation for P.C.C. Cars

The Trustees have authorized the installation of 300 powerful overhead fans in 100 P.C.C. cars.

These fans are on order and will be installed progressively beginning this spring, dependent upon delivery of the fans and materials.

The three fans to be installed in each P.C.C. car can bring in 12,000 cubic feet of fresh air per minute, or eight times more air than the existing ventilation in the earlier P.C.C. cars. The

fresh air is brought into the car through a monitor that is to be built on the roof and is then circulated through the car.

The speed of the fans is thermostatically controlled and the amount of air brought in is progressively increased to 12,000 cubic feet per minute as the temperature within the car rises.

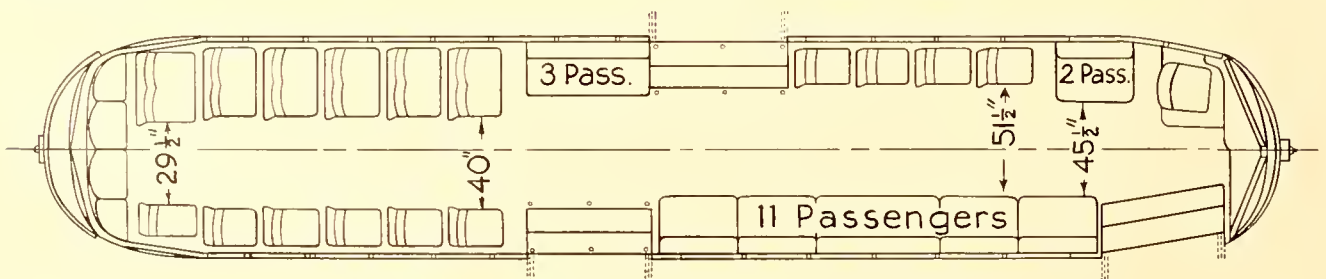
The Authority experimented with improved ventilation of the P.C.C. car. The reaction of the passengers to different installations, under varying temperatures, was obtained. The Trustees then authorized the installation of these modern circulating fans.

Rearrangement of Seats in 100 P.C.C. Cars

For the purpose of facilitating the movement of passengers within P.C.C. cars, the seating arrangement of 100 of these cars will be changed in order to adapt them more fully to subway operation.

The new seating arrangement will provide for an aisle of 40 inches instead of 25 inches at the rear of the car. From near the front end of the car, the width of the aisle will be increased from 35 and five-eighths inches to 51 and one-half inches.

During peak hours of travel, the present seating arrangement in the P.C.C. cars prevents the passengers from distributing themselves throughout the car. The wider aisle will provide greater ease of passenger movement within the car. It will enable passengers to enter and leave the car more readily, thereby reducing the time for station stops and speeding up the movement of cars throughout the subway.



Rearrangement of seats in 100 P.C.C. Cars

For some time, a P.C.C. car has been in operation with a seating arrangement similar to the one authorized for 100 P.C.C. cars.

The Trustees believe that the speeding up of service and the ease of movement within the cars will meet with general approval on the part of the passengers.

Remodeling of Interior of Cambridge-Dorchester Rapid Transit Cars

With the intention of providing greater comfort to the passengers, the Trustees of the Authority have authorized a remodeling and modernization of the interior of cars of the type used on the Cambridge-Dorchester rapid transit line.

The longitudinal seats in these Cambridge-Dorchester cars will be removed and replaced with a number of cross seats which can be reversed. Some longitudinal seats will be provided at each side of the doors to permit free movement of passengers and ease of boarding and leaving. The seats will be spring cushioned and upholstered in fabric and will have chromium plated "grab" handles and frames.

The entire color scheme of the interior of the car will be changed so as to provide a pleasing and harmonious interior. The seats will be deep maroon in color. The upper half of the posts and walls will be a light apple-green with a darker shade of green on the wainscoting below the windows. The ceiling will be painted an oyster white. The floor covering will be a new green moisture resisting mastic composition.



Interior View of a Remodelled Cambridge-Dorchester Rapid Transit Car
[23]

A new ceiling with perforations will be installed in these cars and between the ceiling and the roof a series of powerful fans will be provided for ventilation. Fluorescent light fixtures, running the entire length of the car on each side, will replace the present ceiling lights.

When the Legislature authorizes the extension

of rapid transit facilities from south of Savin Hill station to Braintree, the new cars that the Trustees would purchase for this extension would have interiors fashioned after the remodeled Cambridge-Dorchester cars, with such modifications as experience indicates desirable.

RAPID TRANSIT STUDIES SPECIFIED BY THE LEGISLATURE

THE powers and duties of the Metropolitan Transit Authority with respect to rapid transit extensions are set forth in Section nine of Chapter 544 of the Acts of 1947 which created the Authority. This section states that the general duty of the Trustees shall be so to "exercise their powers as to secure an adequate, coordinated, integrated and efficient system of rapid transit and the improvement thereof within the area of the cities and towns presently constituting the Authority and as it may be enlarged and extended from time to time by act of the General Court."

The Trustees of the Authority were also directed by the Legislature to consider the reports of the Metropolitan Transit Recess Commission and all the recommendations made by this Commission. The Act named certain specific rapid transit extensions and improvements upon which the Trustees of the Authority were directed to report to the Legislature with plans and estimates of cost.

These projects follow:

- A. The extension of rapid transit to Braintree by use of the lines and facilities of the Old Colony Railroad.*
- B. The enlargement and improvement of the Park street and the Boylston street stations and the extension of the subway from Park street to north of Scollay square.*

C. The removal of the elevated structures and the construction of subways in their place.

D. The extension of the Cambridge subway in a northerly and westerly direction from the present terminal near Harvard square.

With respect to projects "B" and "C", studies, estimates of cost, and drafts of necessary legislation and recommendations, if any, were required to be filed with the Clerk of the House of Representatives on or before March 15, 1948 and were filed on that date. With respect to project "A", the Trustees of the Authority have already filed studies and estimates of costs with the State Department of Public Utilities, in accordance with Chapter 544 of the Acts of 1947. The Trustees consider project "D" later in this report.

Chapter 544 provides that the Authority may employ engineering and other assistance as the Trustees deem necessary, and that they may utilize the services of the various state departments to assist them in the preparation of their plans and studies. Much of the work of preparation of plans and cost estimates was performed by the present engineering staff of the Authority. The Trustees engaged the services of the State Planning Board and of the firm of Jackson and Moreland, engineers, in order to assist in the preparation of the plans and estimates within the time specified.



Rapid Transit Service to Quincy and Braintree

On February 25, 1948, Governor Robert F. Bradford in a special message to a joint convention of both branches of the Legislature stated he had been notified by letter that "the New Haven directors regret that they have no choice but to elect to discontinue on October 1, 1948, pursuant to the plan, all passenger service over the so-called 'Old Colony' lines."

In part, His Excellency the Governor recommended that the Legislature consider modification of the provisions of Chapter 544 of the Acts of 1947 in order to enable the State Department of Public Utilities to act at once and report to the Legislature as soon as possible upon the plan to extend rapid transit service as far as Braintree over the Old Colony lines.

By virtue of the provision of Sections 9 and 10 of Chapter 544 of the Acts of 1947, the Trustees of the Authority are directly concerned with the question of extending rapid transit facilities from Boston to Braintree. Moreover, Section 10A of that same Act directed the Authority to take action under the conditions which prevailed with respect to the question of extending rapid transit facilities to Braintree. That section states:—"Whenever the trustees shall be of opinion that the transit system under the authority ought to be extended into any city or town not then included in the authority, they shall cause plans and specifications to be prepared showing such extension and shall submit them to the department." (The State Department of Public Utilities.)

Not only because of the general obligation of the Trustees under Chapter 544 of the Acts of 1947 with respect to rapid transit extensions, but also by virtue of the specific authority, the Trustees of the Authority are directly concerned with the recommendation of His Excellency the Governor that rapid transit service be extended from Boston to Braintree.

Should the Trustees of the Metropolitan Transit Authority fail to take recognition of a real transportation crisis, they would not be carrying out the mandate of the Legislature contained in Chapter 544 of the Acts of last year.

The Trustees of the Authority, therefore, voted unanimously that they "were of opinion that the transit system of the Metropolitan Transit Authority ought to be extended into the City of Quincy and the Town of Braintree." In pursuance thereof, the Trustees filed with the State Department of Public Utilities plans and estimates of costs for the extension of rapid transit facilities to these two communities.

The proposed route to Braintree would merge south of Savin Hill station with the present rapid transit line from Ashmont station to Harvard station. It would connect with the present line at a point about four-tenths of a mile southerly of the Savin Hill station and from there it would operate over the Old Colony Railroad right of way to Braintree, a distance of about seven and one-half miles. The present roadbed and existing tracks and as many of the present structures as would be needed would be retained and utilized. The stations on the line would remain in the same general location as the present railroad stations. Terminal facilities would be located between Braintree and South Braintree with provisions for storage yard and a shop for repairs.

When rapid transit is authorized to Braintree, the Authority can provide sufficient rapid transit equipment to fill the gap temporarily, but additional cars will be needed. The new rapid transit cars will be ultra modern with no steps to climb. The cars will have cross seating similar to steam railroad cars with ample doors providing ease of access and quick loading and unloading. They will be corridor type, permitting passage from one car to another. They will have fluorescent lighting, comfortable seats and other modern features.

The Authority made a thorough review of the studies and estimates of the Metropolitan Transit Recess Commission for this route and revised the figures on the basis of present day costs for construction, equipment and operation.

The cost of the extension is estimated at \$10,000,000 including \$3,600,000 for new rapid transit cars and \$500,000, the estimated cost of acquiring at salvage value the Old Colony right of way.

Based upon the present volume of passenger traffic on the Old Colony line, the cost to the M.T.A. of operating the proposed schedules is estimated at \$1,350,000 annually. With fares from 15 cents to 25 cents from different stations, including the right to ride anywhere on the present M.T.A. system, the revenue is estimated at approximately \$1,847,000 a year. Between Braintree, way stations and South Station, the present fares for the 12-ride commuter ticket on the steam railroad range from 15.6 cents to 21.9 cents per ride. The fares by bus and M.T.A. rapid transit range from 16.25 cents to 30 cents. In the estimated revenue, indicated above, consideration has been given to the fact that at present some of the steam riders now use the M.T.A. services after they reach South Station.

The Trustees of the Authority are firmly of opinion that at the proposed fares the income from the operation of the proposed service between Braintree and Boston would be sufficient to pay the cost of service.

As to the ability of the M.T.A. system to absorb the added traffic in the event that rapid transit is substituted for the existing steam railroad service between Boston and Braintree, in 1947, the transit system carried 388,000,000 revenue passengers. A total of about 10,000,000 passengers are transported annually on the Old Colony line between Boston and Braintree. This addition to the M.T.A. passenger traffic would represent only slightly more than two and one-half per cent.

On the Cambridge-Dorchester line, of which the proposed service to Braintree would be an extension, the M.T.A. transports 71,000 passengers daily in one direction. The added one-way traffic from the Old Colony would amount to about 14,000 passengers daily. To carry these passengers on the Cambridge-Dorchester rapid transit would increase traffic on this line by approximately 20 per cent.

There can be no question as to the ability of the Cambridge-Dorchester line to handle additional traffic during the non-rush hours and on Sundays or holidays, which period of operation represents 90 per cent. of the total time when service is operated.

The M.T.A. has been operating 23 trains, four cars to a train, a total of 92 cars, during the evening rush hour and during that same period has been transporting 19,000 persons at the maximum point of traffic outward bound.

With the service proposed to be operated, the Trustees are firmly of opinion that the additional traffic that would come to the transit system by reason of the extension of rapid transit facilities from south of Savin Hill station to Braintree could be carried on the Cambridge-Dorchester extension.

Six months from the date the Legislature authorizes this extension, the Authority expects to be able to furnish rapid transit service to the Quincy Adams station, where temporary terminal facilities would be provided for connecting bus lines serving the surrounding area. It is expected that the extension to Braintree would be completed in about a year.

The ability of the Authority to extend rapid transit to Quincy Adams within six months would be utterly impossible except for the engineering research done by the Metropolitan Transit Recess Commission which has studied this project since 1943.

In view of the announced decision of the New

Haven Railroad to discontinue passenger service on the Old Colony lines, the Trustees of the Authority believe that it is essential for the public welfare that such a large and important part of the Boston Metropolitan area as Quincy and Braintree should be provided with rail transportation integrated with the present rapid transit system of the Authority. This should be done, they believe, not only for the benefit of Quincy and Braintree, with a total population of over 100,000, but also for the service of the surrounding communities in the arc from Hull to Brockton, which is now served by the Old Colony lines and where the total population is approximately 150,000 more.

The known difficulties of the Old Colony lines have engaged the attention of the Legislature since 1939. There have been a number of special commissions to study all aspects of this question. The commission headed by the then President of the Senate, which reported in May, 1946, stated:

"If all efforts fail and (steam railroad) service is to be abandoned, we think that a logical and inevitable substitute will be the extension of rapid transit over the Old Colony lines, at least as far as Braintree."

When and if the Legislature determines that the policy of the Commonwealth of Massachusetts shall be to extend rapid transit facilities to Quincy and Braintree, then the Metropolitan Transit Authority is prepared to start construction immediately.

If railroad passenger service by the New Haven Railroad is discontinued to Braintree on October 1, 1948, it is essential that construction by the Metropolitan Transit Authority be authorized within a relatively short time.

Following a recommendation of His Excellency the Governor, the Legislature enacted Chapter 151 of the Acts of 1948 which modifies sections 10A, 10B and 10C of Chapter 544 by directing the State Department of Public Utilities to hold a hearing and give its decision on the

plans and estimates of cost filed by the Trustees of the Authority within three weeks after March 18, 1948, the effective date of Chapter 151, and by speeding up the time for the referendum vote in Quincy and Braintree and the filing of proposed legislation with the General Court.

On March 30, 1948, the State Department of Public Utilities held a hearing on plans and estimates of cost of the Metropolitan Transit Authority for extending rapid transit facilities into Quincy and Braintree and on April 8, 1948 the Department approved this extension.

The Authority can make no further progress toward providing rapid transit facilities to Quincy and Braintree until after the Legislature has acted. As far as the Authority is concerned, it will be in no better position next year to make the transition than it is this year.

The Trustees await only authorization by the Legislature for the construction of the extension and its facilities to commence work on the conversion from steam to electricity.

Proposed New Subway Between Park Street and Scollay Stations and Improvements Between Boylston Street and Park Street Stations

The capacity of the surface car subway system is overtaxed in the rush hours. The operation of individual cars in trains has helped to speed up service, but not sufficiently. There is serious congestion and slowing down in this subway system due to the bottleneck which occurs between Park street and Scollay square stations. For years there has been a demand for the correction of this condition. The Metropolitan Transit Recess Commission in its 1945 report to the Legislature called attention to this problem, as did the former Board of Trustees of the Boston Elevated Railway Company in its annual reports for the years 1945 and 1946. Between these points only two tracks exist. There are four tracks between Boylston street and Park street stations and again between Scollay square station and the North Station. To

remedy these congested conditions, the construction of a short connecting link of subway is imperative, so as to provide four tracks throughout the entire length of this subway to the North Station. The platform facilities for passengers in this surface line subway system are inadequate.

The proposed new subway from Park street station to Scollay square station involves the construction of approximately 1,500 feet of new two-track subway. Two new southbound platforms beginning at the head of Hanover street would be built. These platforms would be approximately 300 feet long, and would accommodate six individual cars or two three-car trains.

An additional platform on the present Tremont street subway is also proposed at the head of Court street on the southeasterly side. It is also proposed to connect the new northbound platform at the head of Court street with the new southbound platform at the head of Hanover street with a wide pedestrian concourse, under Scollay square.

Together with this proposed connecting link of subway, the Legislature should authorize an increase in the platform facilities between the Park street and Boylston street stations. This change would unite the Boylston street and Park street stations by means of continuous platform facilities with several entrances to Tremont street and the Boston Common.

By rearrangement of the tracks, provisions would be made for northbound operations on the two easterly tracks, and southbound on the two westerly tracks. These two sets of tracks would be separated by a center platform and each pair of tracks would have continuous side-wall platforms throughout the entire length between Park street and Boylston street. Certain changes will provide for a larger loop at Park street in order that some of the trains from the Boylston street subway can be turned around at Park street.

No change is contemplated at this time at the Boylston street end. The present incline and grade separation, where the Tremont street subway tracks pass under the Boylston street subway, will be retained.

The estimated cost for the new subway between Park street and Scollay stations is \$8,250,000. The estimated cost of the improvements between Park street and Boylston street stations is \$3,182,500.

Removal of Elevated Structures and the Construction of Subways in Their Place

Another project upon which the Legislature directed the Authority to report is the removal of the elevated structures and the construction of subways in their place. To the south, the elevated structures, which connect with the Washington street tunnel, extend from the present tunnel, near LaGrange street on Washington street, to the Forest Hills station. To the north, these structures extend from just beyond Haymarket square station to the North Station and to Sullivan square and Everett stations.

The Trustees recognize that these elevated structures, standing in Charlestown and in Roxbury, by the very nature of their existence are a serious detriment to the development of the communities in which they have been for over half a century. They constitute a serious obstruction to vehicular traffic along Washington street, Roxbury, and Main street, Charlestown. Their removal would aid in the rehabilitation of much of the property in the adjacent areas. Nevertheless, they do constitute an important link in the present rapid transit system and are entirely serviceable. The construction of subways to take their place would be an exceedingly costly project.

From the end of the present Washington street tunnel, a subway, as shown on the plans which were filed with the Clerk of the House of Rep-

representatives, would extend out Washington street to Dudley station and beyond to Forest Hills station, after which the elevated structures would be removed. The present structures would have to be supported while such a subway was being built, thus adding considerably to the cost of the project. Consideration should be given to the relocation of several of the present stations. The Dover street station, for example, would be relocated further south at a point near Union Park street, where it would more adequately serve the Cathedral of the Holy Cross and the other important edifices and institutions in the vicinity. The Northampton street station would be relocated approximately at Massachusetts avenue, as this thoroughfare would carry surface feeder lines to the new underground station.

The new subway would continue out Washington street to Dudley station, where a new underground station would be built at this point. The subway would continue out Washington street to a point near Valentine street where it would swing away from Washington street on a wide curve passing under Marcella street and emerge by way of an incline to an elevated structure. This elevated structure would pass over Columbus avenue and Amory street to the easterly side of the right of way of the New Haven Railroad. The line would then run parallel with the railroad, on the embankment, to a point just northwest of Forest Hills station where it would cross vacant land and join the present elevated structure on Washington street. All of the present facilities at Forest Hills station, including the yards and yard tracks, would be retained.

The present feeder lines, which now operate to Egleston station, would be extended to Columbus avenue and Amory street. Here the passengers would board the rapid transit route at the new overhead station. Another station on the proposed line would readily be located in the vicinity of Green street on the new route with opportunities for feeder lines at this point.

The estimate of the cost for the extension of the subway and rapid transit to Forest Hills amounts to \$28,734,306.

While the removal of the structures is highly desirable, in view of the high cost of the project in relation to the improvement in service to be obtained, it does not appear to the Trustees to be a project to which top priority should be given at this time. The Trustees, therefore, did not submit proposed legislation.

To the north, from the vicinity of Haymarket square to Sullivan square, the removal of the elevated structure and the construction of a subway in its place presents a more difficult problem. New subway construction would have to start at the northerly end of the Union station (Washington street tunnel) platform, where the present tracks begin to rise, and continue under Haverhill street. It would then pass underground between the North Station and the Industrial Building, thence by tunnel under the Charles River, parallel to the Warren avenue bridge, and under Main street to a point approximately 1,000 feet south of the present terminal at Sullivan square and then rise to join the present elevated structure at Sullivan square.

The construction would be costly because of the tunnel which would be required under the Charles River at a depth sufficient to pass under the ship channel.

The estimated cost of the subway extension from the vicinity of Haymarket square to Sullivan square station, as described above, amounts to \$14,126,079.

An alternative for this extension would be the continuance of the subway from Haymarket station to the North Station, emerging on the surface in the North Station adjacent to the easterly loading platforms. The rapid transit line could then use the tracks of the Boston and Maine Railroad utilizing the easterly span of the present Boston and Maine drawbridges, thence on the surface through the present passenger coach

yard, under Prison Point bridge, following the general line of the former Eastern Railroad, to a point near Sullivan square and then by way of an incline to join with the present structure at Sullivan square. This latter route would greatly reduce the cost for subway construction.

The availability of such a location would depend entirely on the Boston and Maine Railroad abandoning a portion of their yard and track facilities. This abandonment could not take place until such time as rapid transit extensions were constructed to Woburn or Reading, as all of the present facilities are apparently needed by the railroad. Consequently, this alternative plan is not practical at this time.

The Governor's Committee on Highways, which has been studying a master plan for major highway proposals for Greater Boston has reported and recommended an elevated highway to pass over Haymarket square and continue overhead between the North Station and the Industrial Building to a point near City square. This highway could be so designed, by means of a second level, to permit the operation of rapid transit. In that event, the removal of a major part of the present elevated structure between North Station and City square would be entirely practical because there would then be a substitute means of providing rapid transit.

The Trustees believe that no definite action can be taken on this proposal until some decision is made on the proposals of the Governor's Highway Committee, which are now before the Legislature.

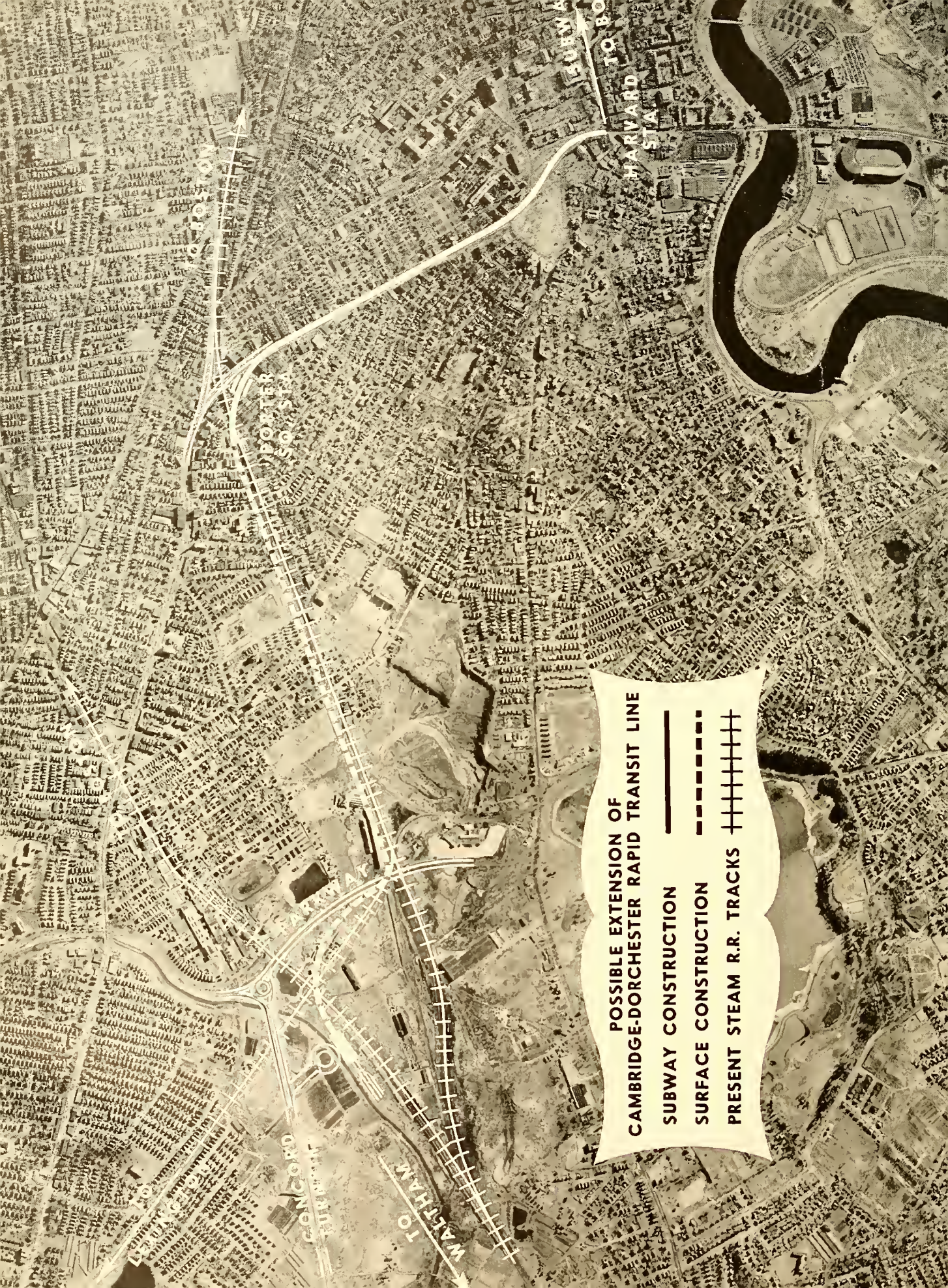
Extension of the Cambridge Subway

The Legislature also directed the Trustees to study the question of extending the Cambridge subway in a northerly and westerly direction from Harvard square. No definite time for a report on this subject was named in the Act.

The Trustees have discussed elsewhere the means of furnishing rapid transit service to Braintree. When the Legislature authorizes this extension, then the extension of the other end of this line northwesterly will be given careful consideration and appropriate action can be taken by the Authority in accordance with Chapter 544 of the Acts of 1947.

Involved in this project is the extension of the Cambridge subway under Massachusetts avenue from Harvard square to a point near Porter square. Thence, the rapid transit tracks would come to the surface and parallel the railroad tracks of the Fitchburg Division of the Boston and Maine Railroad. This project involves the construction of a new terminal on vacant land owned in part by the railroad and in part by the Commonwealth of Massachusetts, and located west of the Alewife Brook parkway and south of the Concord turnpike. At this new terminal and transfer point, the Cambridge subway type of train operation would end. The terminal at this point should include facilities for feeder bus lines operating along the Concord turnpike and for high-speed trolley lines operating on private right of ways to bring their passengers to the rapid transit line.

Certain changes at Harvard square would be necessary because of the extension of the subway under Massachusetts avenue. An underground station could be located at Porter square. Local buses operating from parts of Cambridge and Somerville would discharge their passengers at this new station at Porter square where they would board the rapid transit. Under this proposal, the present street car tracks and island loading platforms on Massachusetts avenue could be removed. This improvement would greatly assist the general movement of surface traffic and would release the full width of Massachusetts avenue for automobile traffic.



POSSIBLE EXTENSION OF
CAMBRIDGE-DORCHESTER RAPID TRANSIT LINE

SUBWAY CONSTRUCTION

SURFACE CONSTRUCTION

PRESENT STEAM R.R. TRACKS

OTHER RAPID TRANSIT STUDIES

THE Legislature directed the Trustees of the Authority to consider the reports and recommendations of the Metropolitan Transit Recess Commission with respect to "an extended and improved system of rapid transit in the greater Boston metropolitan area."

Among these proposals was the extension of rapid transit service to Lexington and to Waltham.

If the Legislature authorizes the extension of the Cambridge subway discussed above, then a high-speed trolley service from the proposed new terminal near the Concord turnpike could be provided over the steam railroad right of ways of the Lexington Branch to Lexington and of the Central Massachusetts Division to Waltham.

The Lexington Branch of the Boston and Maine Railroad serves a territory also presently served by the surface lines of the Metropolitan Transit Authority operating in Arlington as far as Arlington Heights. More than 10,000,000 revenue passengers are now carried annually by these M.T.A. surface lines. Were the Authority to operate a rapid transit service over the steam railroad right of way, the present M.T.A. riders would receive a faster service which could be operated more economically. Moreover, the present steam railroad commuters would have the benefit of a much more frequent service.

Twenty years ago, the steam railroad operated more than 25 trains a day in each direction on the Lexington Branch. Today, four trains are operated in each direction, two in the morning

and two in the afternoon hours. No trains are operated during the middle of the day. There is no train service from Boston after 6:24 p.m. and none from Lexington to Boston after 7:33 p.m.

Rapid transit service over this right of way would furnish better service for all commuters, should attract new riders and would result in operating economies.

The same opportunity for improved service exists with respect to the use of the Central Massachusetts Division of the Boston and Maine Railroad as far as Waltham Highlands. Many of the commuters from Waltham, Waverly and Belmont use the present surface lines of the Metropolitan Transit Authority to reach Harvard square and then continue to Boston via rapid transit. The operation of rapid transit service over the steam railroad right of way would furnish a faster service and one more economical to operate than the present service over the surface lines. Those now using the steam railroad service would also have the benefit of more frequent rapid transit service.

Accordingly, because of the benefits which would accrue from the operation of rapid transit services to Lexington and Waltham, the Trustees will continue their studies relating thereto and, at a later date, will consider filing recommendations with the State Department of Public Utilities as to the use of the Lexington Branch and the Central Massachusetts Division of the Boston and Maine Railroad for rapid transit purposes.

PERSONNEL

AS of the end of 1947, there were 7,909 employees of the Authority. Of these employees, 5,252 were in classifications covered by agreement with Division 589 of the Amalgamated Association of Street, Electric Railway and Motor Coach Employees of America and 1,404 were members of 26 craft unions.

Effective January 3, 1948, all hourly and weekly paid employees of the Authority were placed on a five-day week without reduction in take-home pay.

Union Agreements in 1947

The Metropolitan Transit Authority negotiated a new agreement with Division 589 for the two-year period from July 1, 1947 to July 1, 1949. Heretofore, contracts have usually been on a one-year basis.

In addition to the provision for a two-year contract, the other main features of this agreement were the provisions for a sound contributory pension system and, effective January 3, 1948, a five-day week without reduction in take-home pay for the scheduled work week and with no retroactive provisions.

The 26 craft unions include, among others, such crafts as the machinists, electrical workers, firemen, oilers, blacksmiths and technical engineers. Of these 26 craft unions, 14 are in the building trades' group and are affiliated with the Building and Construction Trades Council of the Metropolitan District, including such employees as carpenters, electrical wiremen, painters, sheetmetal workers, pipe fitters and structural iron workers. As of the present date, the Authority has negotiated new agreements with all the unions whose contracts were re-opened in 1947, except one which was re-opened for changes on December 31, 1947, and which is now being negotiated.

Contributory Pension System

All employees of the Metropolitan Transit Authority will become eligible to join the pension system under the provisions of its rules and regulations which, among other conditions, provide for equal contributions by the Authority and by the employees of an amount not to exceed, on the part of either, five per cent. of the annual payroll of the employees who are members of the system. Details of the pension plan are practically complete.

By virtue of Chapter 544 of the Acts of 1947, which resulted in the employees of the railway becoming employees of a subdivision of the Commonwealth, these employees were no longer subject to the provisions of the Social Security Act.

In accordance with the permissive provisions of said Chapter 544, employees will be protected in their retirement by a type of sound contributory pension system such as has been adopted by relatively few transit systems operating in the larger metropolitan areas. The added security to the employees should result in greater efficiency and productivity with maximum courtesy toward the public, who are the owners of this railway system.

Merit Plan Examinations

During 1947 and so far in 1948, the railway has conducted several examinations under the merit plan system which has been developed over the years for the selection of operators on surface lines and collectors on the rapid transit lines and for promotions to supervisory positions.

During the year just ended and in the first two months of 1948, merit plan examinations were held for operators on the surface lines; extra inspectors, train starters, towermen, starters and collectors on the rapid transit lines.

The examination for collectors, taken by 240 men on April 5, 1947, resulted in the establishment of a list of 98 men, from which men are being taken in order of ranking and given an opportunity to qualify as vacancies occur.

The examination for operators on the surface lines was taken by 865 men on February 14, 1948. Of these men, 580 passed the written examination. They are being taken in order of ranking and given an opportunity to qualify for the operators' positions as vacancies occur.

In addition to the above positions, the positions of station masters and information clerks on the rapid transit lines are also filled as a re-

sult of examinations given under the merit plan system.

A Good Safety Record

The total number of collision accidents in 1947 was lower than in 1946 or in 1945. On the basis of accidents per 100,000 surface revenue miles, the number of collision accidents in 1947 was 13.83, as compared to 15.18 in 1946 and 15.72 in 1945.

This noteworthy reduction in the number of collision accidents resulted from intensive training and follow-up instruction and from the co-operative efforts of our operating personnel.

CHARTERED BUS BUSINESS

THE revenue from the operation of buses in chartered service amounted to \$117,103.05 in 1947 as compared to \$112,421.44 in 1946.

All restrictions upon this character of business, imposed earlier because of a shortage of manpower and of buses were removed in 1947.

By solicitation and publicity, the Authority is making a special effort to increase this char-

acter of business. The Trustees believe that an opportunity exists, especially on Saturdays, Sundays and holidays, for a considerable development of chartered bus business. A Charter Bus Office has been established for the purpose of soliciting and handling this business. Information relative to the chartering of buses may be obtained by calling the Authority's telephone number, HANCOCK 6-1800, at any time.

PUBLIC CO-OPERATION

DURING the winter just passed, the continuous operation of the M.T.A. transit lines, handicapped by the record-breaking fall of snow and the narrowed condition of the streets, was made still more difficult by the careless parking of automobiles and trucks in such a way as to block the movement of transit vehicles.

In the operation of this vast transit system, owned by the public, the co-operation of all is needed and most earnestly solicited by the Authority. On numerous occasions throughout the past winter, the Trustees have, by means of newspaper advertisements and radio announcements, pointed to the imperative need for public



*Trackless trolleys operating
despite winter conditions*

co-operation in the maintenance of the transit schedules. Thoughtlessness on the part of a few, however, caused long delays to the many using the transit facilities.

So serious became the delays to street car service that the police brought complaints against a considerable number of persons whose carelessly and willfully parked automobiles had blocked street cars.

The Trustees appreciate the co-operation of the Registrar of Motor Vehicles who, during the past winter, mailed letters of warning to a large number of offending motorists in an effort to reduce the improper parking of private automobiles that resulted in the blocking of public transit vehicles.

The Trustees realize that much of the improper parking is due to carelessness and they trust that this practice will disappear with a

widening consciousness on the part of the general public that care should be taken so as not to block the movement of public transit vehicles.

In another respect, the Trustees ask the public co-operation. In many of the cities and towns in which the Authority operates buses and trackless trolleys there are places reserved along the curbing for bus and trackless trolley stops. These stops are authorized by the municipalities for the convenience of the transit riders. Moreover, by providing places for transit vehicles to stop at the curbing, away from the stream of traffic, these stops also help the general movement of traffic. Too often, however, the prohibition against the parking of private automobiles in these bus and trackless trolley stops is not being observed. The Trustees ask all motorists not to park their automobiles in these bus stops during those hours when their use is confined to public transit vehicles.

FINANCIAL STATEMENTS AND INDEPENDENT AUDITORS' CERTIFICATES

APPENDED to this report is an auditors' certificate of Lybrand, Ross Bros. & Montgomery, independent public accountants, with respect to the balance sheet of the Boston Elevated Railway Company at August 29, 1947, immediately before transfer of its net assets to the Metropolitan Transit Authority, and the accompanying statement of income and the cost of service for the period January 1 to August 29, 1947.

Section 12 of Chapter 544 of the Acts of 1947 provides that the State Department of Public Utilities "shall annually make or have made an

audit of the accounts of the Authority and make a report thereon to the trustees"

To meet this provision, the State Department of Public Utilities engaged Price, Waterhouse & Co., independent public accountants. Appended to this report is a certificate from this firm, transmitted to the Authority by the State Department of Public Utilities, with respect to the balance sheet of the Authority at December 31, 1947 and related statements of income and cost of service for the period from August 29, 1947 to December 31, 1947.

CONCLUSION

IN the opinion of the Trustees, the residents of the fourteen cities and towns now served by the Metropolitan Transit Authority are entitled to better service. This better service can be furnished by improved transit facilities and legislative authority for such facilities will be requested from time to time. It is the firm intention of the Trustees to provide the best service to the public that is possible. This report indicates what has already been done in this direction in the short time since the Trustees have been in office, what is now being done and some of the projects planned for the future. With improved service and better facilities and the extension of the system to such new areas as may be authorized by the Legislature, the Trustees believe that more passengers will use the system. The Trustees further believe that the system can be extended to serve, in a more satisfactory and beneficial manner, the vast residential, commercial and industrial transit area.

The Trustees have asked the Legislature for authorization to construct an imperatively needed improvement in the existing subway system; namely, the construction of an additional subway between Park street station and Scollay station. The Trustees believe also that rapid transit facilities should be provided from Orient Heights station to Revere.

Improvements of this character should be made in the existing transit system in order to enable the Authority better to serve the public.

The report discusses certain proposed rapid transit extensions, which are recommended at this time. In this connection, the Trustees desire to emphasize that the rapid transit lines have not reached out far enough to serve those people who, since 1920, have moved beyond the

five-mile area now served by the rapid transit lines. This publicly owned system should have the facilities to serve as directly as possible the entire area constituting the Metropolitan Boston of today. Because of the growth of population in outlying communities, the rapid transit system should likewise be extended in order to provide service for those who are not now served by adequate transit facilities. This service should be furnished at rates of fare which are reasonable and equitable. If, as appears likely, the operation of short-haul commuter service is discontinued by the steam railroads serving the Metropolitan Boston area and if the Legislature authorizes the Metropolitan Transit Authority to extend its rapid transit facilities over the right of ways of these railroads, the Authority will then have an opportunity to provide service at zoned rates of fare which would meet the cost of providing these services.

In order "to secure an adequate, co-ordinated, integrated and efficient system of rapid transit," a general duty placed upon the Trustees by Chapter 544 of 1947, a substantial investment will be required.—an investment, however, which would be small by comparison with the investment required for general highway development and an investment which would be usable by all the citizens in the area.

The year just passed saw an accentuation of the increases in the costs of equipment, supplies and labor. What the future holds in this regard cannot be foretold.

Throughout the winter just ended, railway services have been maintained under great difficulties. The Trustees wish to thank the general public—and transit passengers in particular—

for their understanding and co-operation during these trying months, without which the operation of the railway system would have been even more difficult. The Trustees wish also to thank the employees, many of whom worked long hours at their various tasks to keep the railway functioning.

Only by a widespread understanding on the part of the general public and of the riders, who constitute a portion of this public, and on the part of the employees that this is a public transit system, operated solely for the benefit of the public, can this operation be made outstandingly successful. The Trustees ask most sincerely for a continuation of this co-operation. The more the people use their transit system in normal times, the more frequently will the service be operated and the better will be the financial results of operations.

On their part, the Trustees, with the aid of the officers and of the other employees of the railway, will continue to direct their efforts to the task of managing and operating the public's transit system efficiently, economically and to

the satisfaction of the riding public in the metropolitan area.

BOARD OF PUBLIC TRUSTEES,
METROPOLITAN TRANSIT AUTHORITY,

Canale L. Meins *Chairman*

Henry Parkman

John F. Hurley

Harold D. Ulrich

Jay Garrison

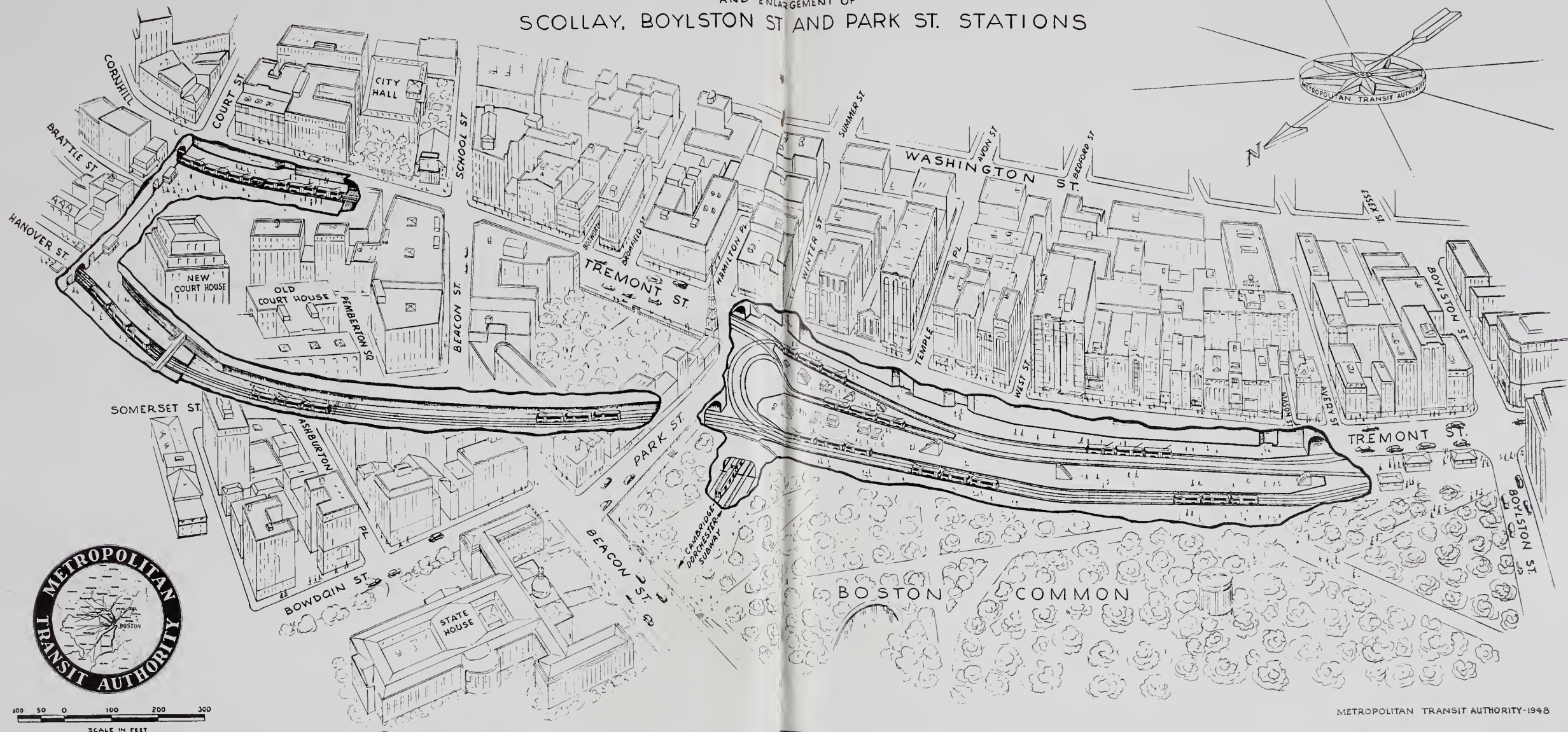
April 22, 1948

PROPOSED EXTENSION OF SUBWAY

SCOLLAY STATION TO PARK ST. STATION

AND ENLARGEMENT OF

SCOLLAY, BOYLSTON ST AND PARK ST. STATIONS



METROPOLITAN TRANSIT AUTHORITY-1948

FINANCIAL STATEMENTS

**METROPOLITAN TRANSIT AUTHORITY FROM AUGUST 29, 1947
BOSTON ELEVATED RAILWAY COMPANY PRIOR TO THAT DATE**

Sybrand, Ross Bros & Montgomery
BOSTON, MASSACHUSETTS

Board of Public Trustees,
Boston Elevated Railway Company,
Boston, Massachusetts.

We have examined the balance sheet of Boston Elevated Railway Company as at August 29, 1947, immediately before transfer of its net assets to Metropolitan Transit Authority, and the accompanying statement of income and the cost of the service for the period January 1 to August 29, 1947. In connection therewith we have reviewed the system of internal control and the accounting procedures of the company and examined and tested accounting records of the company and other supporting evidence by methods and to the extent we deemed appropriate. Our examination was made in accordance with generally accepted auditing standards applicable in the circumstances and included examination in detail of such portion of the transactions as we deemed appropriate and other procedures which we considered necessary. No limitation as to the scope of our examination was placed upon us by the Board of Public Trustees or officials of the company.

In our opinion, the provision for depreciation of road and equipment in the period from January 1 to August 29, 1947 charged to the cost of the service as shown in the accompanying schedule of operating expense accounts is fair and reasonable, but the reserve for depreciation of property and for obsolescence and losses in respect to property sold, destroyed or abandoned, appearing in the accompanying balance sheet, is inadequate.

Because of open questions materially affecting determination of the taxes mentioned in note B to the financial statements, we are unable to reach any opinion with respect to the provisions for taxes included in the balance sheet under current liabilities and in the statement of income and the cost of the service.

In our opinion, subject to the comments in the preceding two paragraphs, the accompanying balance sheet and related statement of income and the cost of the service present fairly the position of Boston Elevated Railway Company at August 29, 1947 immediately before transfer of its net assets to Metropolitan Transit Authority and the results of its operations under public control for the period January 1 to August 29, 1947, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Boston, Massachusetts
December 19, 1947

Sybrand, Ross Bros & Montgomery

BOSTON ELEVATED RAILWAY COMPANY**BALANCE**

At the Termination of Management and Operation of the Company by the Public Trustees Under the Public

ASSETS**Fixed assets:**

Road and equipment:

Way and structures	\$ 57,383,041.86
Equipment	37,267,905.17
Power	15,883,117.23
Construction work in progress	538,314.19

Total road and equipment	111,072,378.45
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Miscellaneous physical property	228,317.69
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Advances for road and equipment on leased roads—

Eastern Mass. St. Ry. Co.	231,530.98
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Total fixed assets	111,532,227.12
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Current assets:

Cash in banks and on hand	3,077,193.29
Special deposits	385,742.51
Miscellaneous accounts and rents receivable	316,454.99
Material and supplies	3,555,754.94
Other current assets	52,180.00

Total current assets	7,387,325.73
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Other investments:

Mortgage notes receivable	72,600.00
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Deferred charges and unadjusted debits:

Prepaid expenses	277,203.50
Unamortized discount and expense on bonds	1,243,166.79
Estimated refund of prior years federal income taxes resulting from carry-back of 1945 and 1946 losses (note B)	591,972.56
Other unadjusted debits	244,847.83

Total deferred charges and unadjusted debits	2,357,190.68
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TOTAL ASSETS	\$121,349,343.53
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See Balance Sheet notes on page 49

Control Act and Immediately Before Transfer of Net Assets to Metropolitan Transit Authority (Note A)

LIABILITIES

Funded debt (all held by Boston Metropolitan District):

Bonds issued under Section 4 of Chapter 333 of the Acts of 1931 as amended	\$ 24,930,917.00
Other bonds issued to the District	50,700,000.00
Total funded debt	75,630,917.00

Boston Metropolitan District had retired at August 29, 1947, or then held cash available to retire, a total of \$22,450,453.75 of the \$75,630,917.00 bonds which it had issued to provide funds for the purchase of above bonds of the company.

Current liabilities:

Bonds of West End Street Railway Company assumed, payable September 1, 1947	570,000.00
Notes payable	3,000,000.00
Accounts and wages payable	1,237,753.18
Accrued interest and rents payable	1,106,311.66
Accrued taxes:	
Provision for additional prior years' federal income taxes (note B)	1,812,377.44
Provision for property taxes (note B)	1,095,893.04
Other taxes	143,775.25
Provision for injuries and damages	1,354,150.00
Unredeemed tickets	62,598.84
Other current liabilities	472,653.80
Total current liabilities	10,855,513.21

Reserve for depreciation of property and for obsolescence and losses in respect to property sold, destroyed or abandoned

16,942,472.15

Capital stock and surplus accounts:

Common stock (238,794 shares of \$100. par value each)	\$23,879,400.00
Premium on common stock	2,707,428.13
Surplus arising from consolidation of West End Street Railway Co. June 10, 1922 and reorganization July 1, 1931	540,768.02
	27,127,596.15

Less:

Deficit prior to July 1, 1918	\$ 10,459.09		
Unreimbursed cost of service deficits	6,409,574.74		
(For the 12 mos. ended June 30, 1931, the 21 mos. ended Dec. 31, 1941, and the 12 mos. ended Dec. 31, 1946)			
Deficiency of income per accompanying statement, January 1 through August 29, 1947	2,787,121.15	9,207,154.98*	17,920,441.17

TOTAL LIABILITIES

\$121,349,343.53

*Denotes debit balance.

BOSTON ELEVATED RAILWAY COMPANY

STATEMENT OF INCOME AND THE COST OF THE SERVICE

JANUARY 1, 1947 TO AUGUST 29, 1947

(As defined in Section 6, Chapter 159, Special Acts, 1918)

Operating Revenue:		
Passenger revenue	\$25,175,142.17	
Special car and special bus revenue	88,197.08	
Total revenue from transportation		\$25,263,339.25
Station and car privileges	660,636.08	
Rent of buildings and other property	44,436.05	
Power	5,953.65	
Other operating revenue	1,570.41	
Total revenue from other operations		712,596.19
Total operating revenues		25,975,935.44
Non-operating Income		4,011.70
Total income		25,979,947.14
Operating Expenses:		
Way and structures	2,904,180.81	
Equipment	3,287,750.62	
Power	2,199,357.36	
Conducting transportation	10,821,415.68	
Traffic	26,442.63	
General	3,146,749.40	
Total operating expenses (including depreciation \$1,433,667.36)		22,385,896.50
Income before taxes and other deductions		3,594,050.64
Taxes Assignable to Transportation Operations (note B)		1,639,436.46
Income before other deductions		1,954,614.18
Other Deductions from Income:		
Interest on funded debt	2,446,644.88	
Amortization of discount on funded debt	55,826.84	
Subway and rapid transit line rental	1,877,311.76	
Dividends (required by law)	596,985.00	
Rent for leased roads	38,041.00	
Other deductions	52,413.68	
Total other deductions from gross income		5,067,223.16
Loss Resulting from Operations		3,112,608.98
Profit and Loss Items:		
Abatement of prior years' property taxes and interest thereon	304,357.00	
Adjustment of outstanding ticket and token liability	16,200.00	
Other credits (net)	4,930.83	325,487.83
Excess of the Cost of the Service over Income		<u>\$2,787,121.15</u>

For notes to this Statement, see page 49

BOSTON ELEVATED RAILWAY COMPANY

NOTES TO FINANCIAL STATEMENTS

Note A — Transfer of Net Assets to Metropolitan Transit Authority

Pursuant to Section 5 of Chapter 544 of the Massachusetts Acts of 1947, Metropolitan Transit Authority exercised the option set forth in Section 17 of Chapter 333 of the Acts of 1931, so as to acquire on August 29, 1947, all of the assets, property and franchises of Boston Elevated Railway Company in consideration of the assumption of all of the Company's then outstanding indebtedness and liabilities and the payment of \$20,297,490 in cash.

Subsequent to the exercise of the option, the board of directors of the company deposited \$6,362,870.75 of the cash received from Metropolitan Transit Authority in a special account under joint control with the Collector of Internal Revenue on account of a possible liability for federal capital gains tax on the transfer of the net assets of the Company to the Authority. Litigation is pending to determine whether, under statutory provisions, the assumption of liabilities by the Authority should include the capital gains tax, if any, on the transfer of the Company's assets to the Authority.

Note B — Other Contingencies in Respect of Taxes

Because of various unsettled questions, the federal income tax liability of the Company has not been finally determined. The Treasury Department has proposed assessment of additional prior years' taxes in excess of the \$1,812,377.44 shown in the balance sheet. Liability for these taxes is now in litigation before the United States Tax Court. The liability, if any, as finally determined as at August 29, 1947, before transfer of net assets to the Authority, has been assumed (note A) and will be payable by the Authority.

Claims, substantial in amount, for abatement of 1947 and prior year local property taxes have been or will be filed by the Company and Metropolitan Transit Authority will be the recipient of any abatements allowed. Pending settlement of these claims, the total amounts assessed have been paid, or included in accrued taxes, and charged to the cost of the service.

BOSTON ELEVATED RAILWAY COMPANY

OPERATING EXPENSE ACCOUNTS

JANUARY 1, 1947 TO AUGUST 29, 1947

Way and Structures:

Superintendence	\$ 350,435.41
Maintenance of roadway and track	1,062,828.33
Removal of snow and ice	214,713.09
Tunnels and subways	23,678.25
Elevated structures and foundations	54,020.66
Bridges, trestles and culverts	23,706.57
Crossings, fences and signs	14,568.97
Signals and interlockers	25,307.79
Communication systems	10,051.43
Miscellaneous way expenses	90,486.63
Maintenance of electric line equipment	220,487.06
Maintenance of buildings, fixtures and grounds	415,077.34
Depreciation of way and structures	376,935.49
Dismantling retired way and structures	21,883.79
Total Way and Structures	2,904,180.81

Equipment:

Superintendence	107,404.92
Maintenance of revenue equipment	1,349,608.40
Maintenance of service equipment	11,637.26
Elec. equip. of cars and trackless trolleys	426,251.39
Shop equipment	53,513.40
Shop expenses	327,923.51
Maintenance of automotive and misc. equipment	103,423.92
Depreciation of equipment	466,209.68
Depreciation of buses and trackless trolleys	441,731.86
Dismantling retired equipment	46.23
Total Equipment	3,287,750.62

Power:

Superintendence	97,012.20
Maintenance of power plants	226,866.15
Depreciation of power plants	148,790.33
Operation of power plants	1,450,803.19
Gasoline and fuel oil for buses	275,885.49
Total Power	\$2,199,357.36

OPERATING EXPENSE ACCOUNTS — Concluded

Conducting Transportation:

Superintendence	\$1,529,619.88
Pass. car, trainmen and bus operators	6,312,795.32
Misc. car and bus service employees	173,969.62
Misc. car and bus service expenses	125,815.99
Station employees	868,059.90
Station expenses	230,179.48
Car house and bus garage employees	996,053.27
Car house and bus garage expenses	117,849.63
Operation of signal and interlocking apparatus	216,350.76
Operation of communication systems	17,719.97
Other transportation expenses	233,001.86

Total Conducting Transportation	10,821,415.68
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Traffic	26,442.63
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General:

Salaries and expenses of general officers	91,617.41
Salaries and expenses of general office clerks	500,330.66
General office supplies and expenses	81,811.27
Law expenses	43,834.09
Pensions and gratuities	295,140.90
Miscellaneous general expenses	113,935.47
Injuries and damages	1,284,704.19
Insurance	211,765.84
Stationery and printing	107,664.03
Store expenses	285,984.96
Service garage expenses and supplies	119,229.77
Rent of equipment	10,730.81

Total General	3,146,749.40
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Total Operating Expenses	<u><u>\$22,385,896.50</u></u>
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(D.P.U. 8146)

The Commonwealth of Massachusetts

*Department of
Public Utilities*

State House, Boston April 16, 1948

Carroll L. Meins, Chairman,
Metropolitan Transit Authority,
Park Square Building,
Boston, Massachusetts

Dear Sir:

In accordance with the requirements of section 12 of chapter 544 of the Acts of 1947, the Department has had made an audit of the accounts of the Metropolitan Transit Authority for the period August 29, 1947 to December 31, 1947.

The Department is herein making a report thereon to the trustees as required by said section.

Very truly yours,

Samuel H. Crosby
Chairman

John M. Whynley
Thomas C. Flaherty
Daniel M. Brackman
Commissioners

MMR

PRICE, WATERHOUSE & CO.

75 FEDERAL STREET

BOSTON 10

April 7, 1948

Department of Public Utilities
Commonwealth of Massachusetts
State House
Boston, Massachusetts

We have examined the balance sheet of Metropolitan Transit Authority as of December 31, 1947 and the related statement of income and the cost of the service for the period from the commencement of operations by the Authority on August 29, 1947 to December 31, 1947. Our examination was made in accordance with generally accepted auditing standards and included such tests of the accounting records and other supporting evidence and such other procedures as we considered necessary in the circumstances.

As more fully explained in the accompanying Note D to the financial statements, there are important unsettled questions relating to the Authority's actual and contingent liability for federal income taxes the ultimate determination of which could materially alter the reported financial position at December 31, 1947.

In our opinion, with the reservation contained in the preceding paragraph, the accompanying balance sheet and related statement of income and the cost of the service, together with the accompanying notes to financial statements, present fairly the position of Metropolitan Transit Authority at December 31, 1947 and the results of its operations for the period, in conformity with generally accepted accounting principles.

Price, Waterhouse & Co.

Assets and Deferred Charges

Fixed Assets (Note B):

Road and equipment	\$110,876,858.64
Miscellaneous physical property	228,317.69
Advances for road and equipment on leased roads	231,530.98

Total fixed assets	\$111,336,707.31
Less — Reserve for depreciation of property and for obsolescence and losses in respect to property sold, destroyed or abandoned (Note B)	42,161,867.82

Total fixed assets, less reserve \$69,174,839.49

Current Assets:

Cash in banks and on hand	\$ 2,627,785.09
United States Treasury Bills	1,998,857.31
Special deposits	197,242.00
Commonwealth of Massachusetts — amounts re- ceivable under Chapter 544, Acts of 1947, for:	
Assessable deficit (Note C)	711,737.31
Subway rentals	348,752.22
City of Boston — property tax refunds receivable	1,566,219.35
Other accounts and rents receivable	269,779.52
Material and supplies, at cost less reserve	3,301,615.24

Total current assets 11,021,988.04

Other Assets:

Estimated refund of 1944 federal income taxes based on carry-back provisions of Internal Revenue Code (Note D)	\$ 591,972.56
Mortgage notes receivable	65,750.00
Claims receivable	83,414.05

Total other assets 741,136.61

Deferred Charges:

Prepaid expenses	\$ 202,937.90
Unamortized discount and expense on funded debt, less premium	1,055,985.78

Total deferred charges 1,258,923.68

\$82,196,887.82

(Notes to financial statements on pages 58-59-60-61)

Liabilities

Funded Debt (all held by Boston Metropolitan District) :

Bonds of Metropolitan Transit Authority	\$ 22,868,000.00
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Bonds of Boston Elevated Railway Company, assumed	75,630,917.00
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Total principal amount of funded debt, per accompanying statement	\$98,498,917.00
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Less — Portion of funded debt for which pay- ment has already been provided under Chapter 544, Acts of 1947 (Note E)	22,951,643.75
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Balance, representing the aggregate of future amounts required for retirement	\$75,547,273.25
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Current Liabilities:

Accounts and wages payable	\$ 1,621,513.24
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Accrued interest and rents payable	1,624,627.47
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Provision for injury and damage claims	1,284,104.48
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Unredeemed tickets	78,903.13
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Employee withholdings and other liabilities	228,088.81
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Provision for additional prior years' federal income taxes (Note D)	1,812,377.44
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Total current liabilities	6,649,614.57
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Contingent Liability and Commitments:

Possible liability for federal tax on
capital gain (Note D)

Commitments (Note F)

\$82,196,887.82

(Notes to financial statements on pages 58-59-60-61)

METROPOLITAN TRANSIT AUTHORITY

STATEMENT OF INCOME AND THE COST OF THE SERVICE

For the Period from the Commencement of Operations by the Authority on

AUGUST 29, 1947 (Note A) TO DECEMBER 31, 1947

Income:

Revenue from transportation	\$12,961,162.65
Revenue from other operations	378,827.73

Total operating revenues	\$13,339,990.38
Non-operating income	5,743.71

Total income	\$13,345,734.09
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Operating expenses:

Way and structures	\$ 1,798,381.68
Equipment	1,790,773.84
Power	1,227,496.49
Conducting transportation	5,630,926.96
Traffic	17,289.22
General	1,456,915.23

Total operating expenses (including allowance of \$860,829.83 for depreciation of property and for obsolescence and losses in respect to property sold, destroyed or abandoned)	11,921,783.42
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Balance of income before taxes, other deduc- tions and other credits	\$ 1,423,950.67
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Taxes assignable to transportation operations	474,633.66
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Balance of income before other deductions and credits	\$ 949,317.01
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Other deductions from income:

Interest on funded debt (Note E)	\$ 1,464,165.59
Amortization of discount on funded debt	28,996.91
Subway and rapid transit line rentals	961,871.23
Rent for leased roads	14,762.58
Other deductions	12,801.11

Total other deductions	2,482,597.42
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Loss before other credits	\$ 1,533,280.41
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Other credits:

Property tax refunds applicable to prior periods, determined since August 29, 1947	\$ 1,495,270.85
Dividend on compensation insurance	75,000.00
Gain from disposal of land	38,393.40

Excess of income and other credits for the period over the cost of the service (Note C)	\$ 75,383.84
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(Notes to financial statements on pages 58-59-60-61)

METROPOLITAN TRANSIT AUTHORITY

STATEMENT OF FUNDED DEBT

DECEMBER 31, 1947

Rate	Date		Maturity date		Principal amount
Bonds of Metropolitan Transit Authority:					
2⅞% (a)	August	15, 1947	August	15, 1972	<u>\$22,868,000</u>
Bonds of Boston Elevated Railway Company, assumed:					
4½%	August	1, 1934	August	1, 1949	\$ 1,581,000
5%	January	1, 1935	January	1, 1960	6,309,000
5%	March	1, 1935	March	1, 1960	8,500,000
4½%	December	15, 1935	December	15, 1960	7,711,000
4½%	June	1, 1936	June	1, 1961	3,815,000
4¼%	January	1, 1937	January	1, 1962	2,098,000
4¾%	October	1, 1937	October	1, 1962	4,800,000
3¼%	November	1, 1941	November	1, 1966	5,000,000
3¼%	October	15, 1942	October	15, 1967	8,286,000
3¼%	March	1, 1944	March	1, 1969	2,600,000
6%	August	14, 1931	August	14, 1971 (b)	21,000,000
6%	September	14, 1931	September	14, 1971 (b)	2,000,000
6%	July	26, 1932	July	26, 1972 (b)	430,917
6%	June	1, 1936	June	1, 1976 (b)	1,500,000
Total bonds of Boston Elevated Railway Company, assumed					<u>\$75,630,917</u>
Total funded debt					<u>\$98,498,917</u>

(a) Interest rate on this issue increases to 3 $\frac{7}{8}$ % effective June 1, 1958.

(b) These issues are scheduled to be paid and retired in 1958 under amortization provisions of Chapter 544, Acts of 1947.

METROPOLITAN TRANSIT AUTHORITY

NOTES TO FINANCIAL STATEMENTS

Note A—Acquisition of Assets and Assumption of Liabilities

Pursuant to Section 5 of Chapter 544, Massachusetts Acts of 1947, Metropolitan Transit Authority exercised the option set forth in Section 17 of Chapter 333, Acts of 1931, and acquired, on August 29, 1947, all of the assets, property and franchises of Boston Elevated Railway Company in consideration of the assumption of all of the Company's then outstanding indebtedness and liabilities and the payment of \$20,297,490 in cash. Funds for the above and other purposes had been provided by the sale of bonds of the Authority to Boston Metropolitan District, in accordance with said Chapter 544.

Note B—Fixed Assets and Reserve for Depreciation

The fixed assets acquired from Boston Elevated Railway Company on August 29, 1947 are carried on the books of the Authority at original cost to the Company as then shown on its books. Additions subsequent to August 29, 1947 are carried at cost to the Authority.

The "reserve for depreciation of property and for obsolescence and losses in respect to property sold, destroyed or abandoned" was established at August 29, 1947 at the amount of \$39,802,998.22, being the amount necessary to reduce the gross carrying value of the fixed assets as of that date, \$111,532,227.12, to the effective cost, \$71,729,228.90, of such assets to the Authority. The \$71,729,228.90 cost to the Authority was computed as follows:

Consideration paid for property and		
franchises of Boston Elevated Railway Company:		
Cash		\$20,297,490.00
Liabilities assumed:		
Funded debt	\$75,630,917.00	
Current liabilities	10,855,513.21	
	\$86,486,430.21	
Less — Portion of funded debt for		
which payment had already		
been provided under chapter		
544, Acts of 1947 (Note E)	22,450,453.75	64,035,976.46
Net consideration paid — forward		\$84,333,466.46

Note B — Fixed Assets and Reserve for Depreciation (Cont.)

Net consideration paid — brought forward		\$34,333,466.46
Deduct:		
Portion of consideration applicable to assets other than fixed assets:		
Current assets	\$ 7,387,325.73	
Other assets	2,429,790.68	
	\$ 9,817,116.41	
Cost of service deficit of Boston Elevated Railway Company from January 1 to August 29, 1947, prior to acquisition of properties by the Authority	2,787,121.15	12,604,237.56
Balance, representing effective cost of fixed assets to the Authority		\$71,729,228.90
The above described treatment is in conformity with the "Uniform System of Accounts for Electric Railways" prescribed by the Interstate Commerce Commission and adopted by the Massachusetts Department of Public Utilities.		
Changes in the depreciation reserve for the period from August 29 to December 31, 1947 are summarized as follows:		
Balance, August 29, 1947		\$39,802,998.22
Additions:		
Allowance for depreciation of property and for obsolescence and losses in respect to property sold, destroyed or abandoned, charged to the cost of the service for the period		860,829.83
Credit arising from the payment made to the Authority by the Commonwealth of Massa- chusetts in October, 1947, pursuant to Section 25 of Chapter 544, Acts of 1947, less \$2,000,000 representing the portion of the deficit for the period from January 1 to August 29, 1947 applicable to the Reserve Fund created by Section 13 of Chapter 544 and not recoverable from the Commonwealth		2,440,101.62
Credit representing portion of funded debt for which payment has been provided since August 29, 1947 under amortization pro- visions of Chapter 544 (Note E)		501,190.00
Forward		\$43,605,119.67

Note B — Fixed Assets and Reserve for Depreciation (Cont.)

Brought Forward		\$43,605,119.67
Deductions:		
Book value, less salvage, of property sold, destroyed, abandoned or otherwise retired during the period	\$1,343,251.85	
Portion of August 29, 1947 balance transferred to reserve for obsolescence of material and supplies	100,000.00	1,443,251.85
Balance, December 31, 1947		<u>\$42,161,867.82</u>

The balance of \$42,161,867.82 at December 31, 1947 is somewhat less than recent engineering and accounting surveys have indicated may be required to cover ordinary depreciation and obsolescence that has accrued on the properties.

Note C — Assessable Deficit

The \$711,737.31 deficit assessable to the Commonwealth of Massachusetts under Section 13 of Chapter 544, Acts of 1947, covers the year ended December 31, 1947 and comprises the following:

Excess of the cost of the service over income and other credits for the portion of the year from January 1 to August 29 during which the properties were operated for the account of the Public Trustees of Boston Elevated Railway Company	\$2,787,121.15
Excess of income and other credits over the cost of the service for the period from August 29 to December 31 during which the properties were operated for the account of the Authority, per accompanying statement	75,383.84
Excess of the cost of the service over income and other credits for the year	\$2,711,737.31
Portion applicable to the Reserve Fund created by Section 13 of Chapter 544, Acts of 1947	2,000,000.00
Balance representing assessable deficit for the year	<u>\$ 711,737.31</u>

Note D — Federal Income Taxes

The federal income tax liability of Boston Elevated Railway Company for the period from January 1, 1939 to August 29, 1947 (assumed by the Authority under Chapter 544, Acts of 1947) has not been finally determined. The Bureau of Internal Revenue has proposed adjustments to the federal income taxes of the Company for the calendar years 1939 to 1943, inclusive, which, together with interest accrued thereon to December 31, 1947, would result in additional taxes of approximately \$3,500,000. The Authority is contesting these proposed additional assessments and the cases are currently in litigation before the United States Tax Court. It is impossible to estimate the ultimate result of the litigation, but the provision of \$1,812,377.44 shown in the accompanying balance sheet is believed to be reasonably adequate to cover the liability, if any, that will finally be determined.

The Authority is believed to be entitled to a refund of the entire amount of federal income taxes paid by Boston Elevated Railway Company for the year 1944, \$591,972.56 (excluding interest), as a result of the carry-back of losses incurred in 1945 and 1946.

Litigation is pending in the Massachusetts courts to determine whether, under Chapter 544, Acts of 1947, the assumption of liabilities of Boston Elevated Railway Company by the Authority should include the federal capital gains tax, if any, on the transfer of the Company's property and franchises to the Authority. The Authority disclaims liability for any such tax, and no provision therefor has been made in the accompanying balance sheet. The Bureau of Internal Revenue has required the Board of Directors of the Company to deposit \$6,362,870.75 in escrow on account of such possible tax.

Note E — Funded Debt

Pursuant to Section 7 of Chapter 544, Acts of 1947, bonds of the Authority and bonds of Boston Elevated Railway Company assumed by the Authority are to be cancelled at their respective maturity dates or prior thereto, to the extent that bonds of Boston Metropolitan District issued to provide funds for the purchase thereof have been retired, or their retirement provided for, through interest payments made by the Company and by the Authority in excess of amounts required to pay the interest on the District's bonds. At December 31, 1947, \$22,951,643.75 of such bonds of the District had been retired, or their retirement provided for, (\$22,450,453.75 as of August 29, 1947 and \$501,190.00 during the balance of the year) and the funded debt shown in the accompanying balance sheet has been reduced by this amount.

Interest is payable, and is chargeable to the cost of the service, on the full principal amount of the outstanding bonds issued or assumed by the Authority.

Note F — Commitments

At December 31, 1947 the Authority had outstanding firm commitments, totaling approximately \$3,500,000, for the purchase of buses and trackless trolleys and for other additions and improvements to the road and equipment properties. The Authority had also engaged the services of outside engineers, attorneys and others in connection with projected studies of rapid transit extension in the metropolitan area, tax litigation and other pending matters, the ultimate cost of which is indeterminable at this time. The accompanying balance sheet does not reflect any liability at December 31, 1947 for such services on the basis that any amount which might be considered to have accrued prior to that date would not be material.

OTHER FINANCIAL AND STATISTICAL DATA

**METROPOLITAN TRANSIT AUTHORITY FROM AUGUST 29, 1947
BOSTON ELEVATED RAILWAY COMPANY PRIOR TO THAT DATE**

METROPOLITAN TRANSIT AUTHORITY

OPERATING EXPENSE ACCOUNTS

FROM AUGUST 29 TO DECEMBER 31, 1947

Way and Structures:

Superintendence	\$ 183,764.53
Maintenance of roadway and track	611,074.67
Removal of snow and ice	226,057.16
Tunnels and subways	11,728.92
Elevated structures and foundations	33,570.43
Bridges, trestles and culverts	5,512.25
Crossings, fences and signs	4,596.38
Signals and interlockers	15,959.99
Communication systems	4,353.68
Miscellaneous way expenses	63,390.01
Maintenance of electric line equipment	139,894.41
Maintenance of buildings, fixtures and grounds	262,200.62
Depreciation of way and structures	231,677.42
Dismantling retired way and structures	4,601.21
Total Way and Structures	1,798,381.68

Equipment:

Superintendence	52,213.05
Maintenance of revenue equipment	704,659.61
Maintenance of service equipment	11,861.19
Elec. equip. of cars and trackless trolleys	229,913.21
Shop equipment	21,770.40
Shop expenses	184,724.51
Maintenance of automotive and misc. equipment	47,457.92
Depreciation of equipment	286,548.39
Depreciation of buses and trackless trolleys	251,152.41
Dismantling retired equipment	473.15
Total Equipment	1,790,773.84

Power:

Superintendence	49,916.43
Maintenance of power plants	138,442.22
Depreciation of power plants	91,451.61
Operation of power plants	785,301.93
Gasoline and fuel oil for buses	162,384.30
Total Power	\$1,227,496.49

OPERATING EXPENSE ACCOUNTS — Concluded

Conducting Transportation :

Superintendence	\$ 769,152.49
Pass. car, trainmen and bus operators	3,275,211.84
Misc. car and bus service employees	86,851.04
Misc. car and bus service expenses	63,321.79
Station employees	461,612.51
Station expenses	127,289.28
Car house and bus garage employees	530,069.02
Car house and bus garage expenses	67,723.02
Operation of signal and interlocking apparatus	114,106.09
Operation of communication systems	9,351.80
Other transportation expenses	126,238.08
Total Conducting Transportation	5,630,926.96

Traffic	17,289.22
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General:

Salaries and expenses of general officers	47,371.56
Salaries and expenses of general office clerks	257,411.08
General office supplies and expenses	44,265.12
Law expenses	18,849.32
Pensions and gratuities	160,374.01
Miscellaneous general expenses	112,651.07
Injuries and damages	429,764.54
Insurance	113,478.62
Stationery and printing	42,482.73
Store expenses	154,126.11
Service garage expenses and supplies	71,279.32
Rent of equipment	4,861.75
Total General	1,456,915.23

Total Operating Expenses	\$11,921,783.42
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METROPOLITAN TRANSIT AUTHORITY

Metropolitan Transit Authority from August 29, 1947 — Boston Elevated Railway Company prior to that date

STATEMENT OF INCOME AND THE COST OF THE SERVICE FOR YEAR ENDED DECEMBER 31, 1947

Operating revenue:		
Passenger revenue	\$38,106,133.85	
Special car and special bus revenue	* 118,368.05	
Total revenue from transportation		\$38,224,501.90
Station and car privileges	1,012,779.38	
Rent of buildings and other property	66,252.63	
Power sales	10,315.90	
Other operating revenue	2,076.01	
Total revenue from other operations		1,091,423.92
Total operating revenue		39,315,925.82
Non-operating income		9,755.41
Total income		39,325,681.23
Operating expenses:		
Way and structures	4,702,562.49	
Equipment	5,078,524.46	
Power	3,426,853.85	
Conducting transportation	16,452,342.64	
Traffic	43,731.85	
General	4,603,664.63	
Total operating expenses (including allowance of \$2,294,497.19 for depreciation of property and for obsolescence and losses in respect to property sold, destroyed or abandoned)		34,307,679.92
Income before taxes and other deductions		5,018,001.31
Taxes assignable to operations		2,114,070.12
Income before other deductions		2,903,931.19
Other deductions from income:		
Interest on funded debt	3,910,810.47	
Amortization of discount on funded debt	84,823.75	
Subway and rapid transit line rental	2,839,182.99	
Dividends (required by law)	596,985.00	
Rent for leased roads	52,803.58	
Other deductions	65,214.79	
Total other deductions from income		7,549,820.58
Loss resulting from operations		4,645,889.39
Profit and loss items:		
Refunds and abatements of property taxes	1,799,627.85	
Dividends on compensation insurance	75,000.00	
Gain from disposal of land	50,426.70	
Adjustment of outstanding ticket and token liability	16,200.00	
Other debits (net)	7,102.47*	
		1,934,152.08
Excess of the cost of the Service over income for the year		<u>\$ 2,711,737.31</u>

*Debit

INCOME AND COST OF THE SERVICE

Income	January 1 to August 29, 1947	From August 29 to December 31, 1947	Year Ended December 31, 1947	Year Ended December 31, 1946	Year Ended December 31, 1945
Revenue from transportation	\$25,263,339.25	\$12,961,162.65	\$38,224,501.90	\$37,996,894.88	\$36,607,706.17
Revenue from other operations	712,596.19	378,827.73	1,091,423.92	1,036,430.03	910,706.74
Non-operating income	4,011.70	5,743.71	9,755.41	48,782.79	84,944.89
Total Income	\$25,979,947.14	\$13,345,734.09	\$39,325,681.23	\$39,082,107.70	\$37,603,357.80
Expenses and Fixed Charges					
Operating Expenses:					
Wages	\$15,798,854.90	\$ 8,385,696.07	\$24,184,550.97	\$23,122,763.31	\$20,575,787.94
Material and other items	2,679,865.51	1,566,251.75	4,246,117.26	3,895,838.14	3,439,904.23
Injuries and damages	1,080,722.09	327,098.62	1,407,820.71	1,454,818.38	1,144,918.46
Depreciation	1,433,667.36	860,829.83	2,294,497.19	1,808,816.64	1,720,269.83
Fuel	1,392,786.64	781,907.15	2,174,693.79	1,758,220.25	1,723,663.61
Total Operating Expenses	\$22,385,896.50	\$11,921,783.42	\$34,307,679.92	\$32,040,456.72	\$28,604,544.07
Taxes	\$ 1,639,436.46	\$ 474,633.66	\$ 2,114,070.12	\$ 1,902,923.41	\$ 2,047,052.67
Subway and rapid transit line rentals	1,877,311.76	961,871.23	2,839,182.99	2,836,184.35	2,835,107.77
Interest on bonds	2,446,644.83	1,464,165.59	3,910,810.47	3,699,480.02	3,699,480.02
Dividends (required by law)	596,985.00	—	596,985.00	1,193,970.00	1,193,970.00
Rent of leased roads	38,041.00	14,762.58	52,803.58	45,090.22	45,977.88
Miscellaneous items	108,240.52	41,798.02	150,038.54	115,309.50	92,610.47
Total Expenses and Fixed Charges	\$29,092,556.12	\$14,879,014.50	\$43,971,570.62	\$41,833,414.22	\$38,518,742.88
Result of Operations	\$ 3,112,608.98*	\$ 1,533,280.41*	\$ 4,645,889.39*	\$ 2,751,306.52*	\$915,385.08*
Profit and Loss Items — net	325,487.83	1,608,664.25	1,934,152.08	1,864,683.98	407,500.00
Surplus or Deficiency of Income	\$ 2,787,121.15*	\$ 75,383.84	\$ 2,711,737.31*	\$ 886,622.54*	\$507,885.08*

*Denotes loss.

METROPOLITAN TRANSIT AUTHORITY

Metropolitan Transit Authority from August 29, 1947—Boston Elevated Railway Company prior to that date

OPERATING EXPENSE ACCOUNTS

	Years Ended December 31	
	1947	1946
Way and Structures:		
Superintendence	\$ 534,199.94	\$ 463,282.61
Maintenance of roadway and track	1,673,903.00	2,020,696.27
Removal of snow and ice	440,770.25	376,039.32
Tunnels and subways	35,407.17	36,267.74
Elevated structures and foundations	87,591.09	87,023.15
Bridges, trestles and culverts	29,218.82	55,493.38
Crossings, fences and signs	19,165.35	16,611.26
Signals and interlockers	41,267.78	54,978.03
Communication systems	14,405.11	9,854.85
Miscellaneous way expenses	153,876.64	135,801.21
Maintenance of electric line equipment	360,381.47	337,876.59
Maintenance of buildings, fixtures and grounds	677,277.96	690,347.22
Depreciation of way and structures	608,612.91	516,600.00
Dismantling retired way and structures	26,485.00	—
Total way and structures	4,702,562.49	4,800,371.63
Equipment:		
Superintendence	159,617.97	141,469.87
Maintenance of revenue equipment	2,054,268.01	1,846,348.90
Maintenance of service equipment	23,498.45	33,713.42
Elec. equip. of cars and trackless trolleys	656,164.60	608,000.90
Shop equipment	75,283.80	66,870.26
Shop expenses	512,648.02	451,689.86
Maintenance of automotive and miscl. equipment	150,881.84	139,832.94
Depreciation of equipment	752,758.07	592,200.00
Depreciation of buses and trackless trolleys	692,884.27	548,816.64
Dismantling retired equipment	519.43	—
Total equipment	5,078,524.46	4,428,942.79
Power:		
Superintendence	146,928.63	141,000.16
Maintenance of power plants	365,308.37	296,425.52
Depreciation of power plants	240,241.94	151,200.00
Operation of power plants	2,236,105.12	1,868,092.60
Gasoline and fuel oil for buses	438,269.79	370,776.33
Total power	\$3,426,853.85	\$2,827,494.61

OPERATING EXPENSE ACCOUNTS — Concluded

Conducting Transportation:

Superintendence	\$2,298,772.37	\$2,152,215.57
Pass. car, trainmen and bus operators	9,588,007.16	9,076,610.07
Misc. car and bus service employees	260,820.66	263,678.00
Misc. car and bus service expenses	189,137.78	190,091.30
Station employees	1,329,672.41	1,207,784.35
Station expenses	357,468.76	317,970.57
Car house and bus garage employees	1,526,122.29	1,410,167.71
Car house and bus garage expenses	185,572.65	161,935.96
Operation of signal and interlocking apparatus	330,456.85	305,727.64
Operation of communication systems	27,071.77	25,840.75
Other transportation expenses	359,239.94	371,379.18
Total conducting transportation	16,452,342.64	15,483,401.10

Traffic	43,731.85	65,279.92

General:

Salaries and expenses of general officers	138,988.97	131,337.53
Salaries and expenses of general office clerks	757,741.74	714,722.86
General office supplies and expenses	126,076.39	141,226.96
Law expenses	62,683.41	59,063.14
Pensions and gratuities	455,514.91	421,859.95
Miscellaneous general expenses	226,586.54	185,651.81
Injuries and damages	1,714,468.73	1,744,010.12
Insurance	325,244.46	309,579.73
Stationery and printing	150,146.76	114,849.14
Store expenses	440,111.07	431,033.07
Service garage expenses and supplies	190,509.09	164,942.21
Rent of equipment	15,592.56	16,190.15
Total general	4,603,664.63	4,434,466.67

Total Operating Expenses	<u>\$34,307,679.92</u>	<u>\$32,040,456.72</u>
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INVESTMENTS IN ROAD OWNED AND LEASED

DECEMBER 31, 1947

Metropolitan Transit Authority

Road and equipment	\$110,876,858.64
Miscellaneous physical property	228,317.69
West Roxbury lines (E. Mass. St. Ry. Co.)	231,530.98

Total Metropolitan Transit Authority investment	\$111,336,707.31
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Leased Lines:

Hyde Park Transportation District—City of Boston..	245,931.51
West Roxbury Lines (part leased)—E. Mass. St. Ry. Co.	665,647.44

Total leased lines	911,578.95
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City of Boston Investment:

Boylston subway	11,583,363.67
Cambridge connection	1,716,416.52
Dorchester tunnel	12,332,954.15
Dorchester rapid transit extension	11,211,935.31
East Boston tunnel	7,380,994.49
East Boston tunnel extension	2,362,628.70
Huntington Avenue subway	2,657,083.07
Tremont subway	4,679,056.46
Washington tunnel	8,024,926.61

Total City of Boston investment	61,949,358.98
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Commonwealth of Massachusetts Investment:

Cambridge subway	8,226,759.52
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Total Commonwealth of Massachusetts investment	8,226,759.52
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Total Investment in Road Owned and Leased	\$182,424,404.76
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BASIC DATA FOR CALENDAR YEARS

YEARS ENDED DECEMBER 31

Year	Revenue Passengers	Revenue Miles	Income	Operating Expenses	Fixed Charges	Miscellaneous Deduction	Result of Operations (excluding Profit and Loss Items)	Average Income Per Rev. Pass. (Cents)	Oper. Charges Per Rev. Pass. (Cents)	Average Expense Per Rev. Pass. (Cents)
1919	324,758,685	53,721,249	\$29,498,582.82	\$23,700,339.41	\$7,873,683.38	\$306,659.91	\$2,382,099.88*	9.08c	7.30c	2.42c
1920	335,526,561	51,359,855	34,031,636.44	25,769,122.11	8,342,668.69	267,012.88	347,167.24*	10.14	7.68	2.48
1921	337,252,080	49,804,625	33,277,025.53	22,843,056.99	9,006,357.65	256,166.02	1,171,444.87	9.87	6.77	2.67
1922	356,593,942	50,707,740	32,699,176.37	22,088,458.75	9,073,591.28	124,937.26	1,412,189.03	9.17	6.19	2.54
1923	382,149,697	54,156,064	34,096,813.26	24,130,253.41	9,189,868.68	97,059.61	679,631.56	8.92	6.31	2.40
1924	382,888,848	56,091,347	34,175,319.61	25,222,133.56	9,355,944.91	233,937.54	636,696.40*	8.93	6.59	2.44
1925	365,036,286	55,558,126	34,547,379.61	24,405,735.57	9,462,371.51	177,078.68	502,193.85	9.46	6.69	2.59
1926	371,218,401	57,943,381	35,481,313.38	26,076,268.11	9,713,154.75	174,639.64	482,749.12*	9.56	7.02	2.61
1927	366,938,908	56,834,029	35,193,410.03	25,132,332.81	9,705,521.39	132,740.34	222,815.49	9.59	6.85	2.64
1928	362,005,033	57,481,292	34,843,147.51	24,900,188.69	9,719,134.04	183,773.76	40,051.02	9.63	6.88	2.68
1929	354,214,990	56,684,985	34,096,623.03	24,024,747.23	9,871,709.99	106,093.17	94,072.64	9.63	6.78	2.78
1930	342,694,905	56,061,843	32,510,721.17	23,527,974.68	10,048,505.49	68,879.81	1,134,638.81*	9.49	6.87	2.93
1931	324,788,577	53,553,889	29,855,107.30	22,250,748.25	9,428,547.27	80,757.13	1,904,945.35*	9.19	6.85	2.90
1932	291,753,825	51,195,761	26,428,493.63	19,542,428.16	9,322,878.62	132,632.30	2,569,445.45*	9.06	6.70	3.19
1933	267,845,429	46,141,119	24,154,373.09	16,829,647.05	9,461,842.77	110,813.53	2,247,930.26*	9.02	6.28	3.53
1934	277,034,175	45,822,648	24,818,625.46	16,895,090.49	9,310,234.87	77,789.87	1,464,489.75*	8.96	6.10	3.36
1935	280,402,526	46,033,344	24,926,426.46	17,665,412.59	9,387,071.91	103,193.19	2,229,251.23*	8.89	6.30	3.35
1936	296,180,666	46,492,077	26,096,155.47	18,410,341.99	9,483,166.08	95,116.41	1,897,469.01*	8.81	6.22	3.20
1937	296,397,493	46,796,328	25,939,777.15	18,710,803.85	9,670,191.13	84,806.36	2,526,024.19*	8.75	6.31	3.26
1938	291,175,017	45,799,029	25,383,333.23	18,799,286.39	9,641,109.24	83,623.54	3,140,685.94*	8.72	6.46	3.31
1939	295,123,077	45,555,636	25,710,948.40	18,716,005.94	9,649,979.64	89,252.96	2,744,290.14*	8.71	6.34	3.27
1940	294,450,628	45,433,001	26,443,297.95	19,285,456.91	9,678,130.76	81,384.99	2,601,674.71*	8.98	6.55	3.29
1941	306,815,525	45,703,597	27,593,514.81	19,387,362.15	9,715,546.34	84,363.28	1,593,756.96*	8.99	6.32	3.17
1942	370,265,241	53,804,462	33,252,621.50	21,661,419.19	9,644,147.67	91,201.64	1,855,853.00	8.98	5.85	2.60
1943	418,203,633	58,240,174	37,653,731.95	25,200,164.00	10,767,155.54	96,845.33	1,539,567.08	9.00	6.02	2.57
1944	417,069,378	57,088,181	37,460,190.90	27,068,251.99	10,721,240.05	101,636.32	430,937.46*	8.98	6.49	2.57
1945	420,096,165	54,606,385	37,603,357.80	28,604,544.07	9,821,588.34	92,610.47	915,385.08*	8.95	6.81	2.34
1946	433,094,952	55,400,283	39,082,107.70	32,040,456.72	9,677,648.00	115,309.50	2,751,306.52*	9.02	7.40	2.23
1947	388,573,222	54,969,812	39,325,681.23	34,307,679.92	9,513,852.16	150,038.54	4,645,889.39*	10.12	8.83	2.45

* Denotes Excess Cost of Service Over Income.

Excluding Special Car and Special Bus Service

ROAD AND EQUIPMENT INVESTMENT

Account	Total Dec. 31, 1947	Total Aug. 29, 1947
Way and Structures:		
Engineering	\$ 1,357,987.80	\$ 1,357,987.80
Right of way	8,426,942.36	8,426,707.36
Other land	5,684,487.65	5,687,094.25
Grading	295,667.28	296,011.40
Ballast	643,960.79	659,495.68
Ties	617,915.14	624,176.83
Rails, rail fastenings and joints	1,162,673.87	1,179,213.59
Special work	4,287,880.24	4,292,274.49
Track and roadway labor	3,740,241.93	3,756,953.07
Paving	1,185,329.70	1,200,314.37
Roadway machinery	739,314.19	765,174.53
Tunnels and subways	469,367.20	469,367.20
Elevated structures and foundations	5,296,310.49	5,296,310.49
Bridges, trestles and culverts	2,004,899.02	2,004,899.02
Crossings, fences and signs	91,661.04	91,661.04
Signals and interlockers	1,217,772.70	1,206,831.37
Communication systems	96,370.33	96,370.33
Distribution system	6,486,051.06	6,444,616.20
Shops, car houses and garages	8,811,073.28	8,732,390.56
Stations, misc. buildings and structures	4,596,798.05	4,562,891.08
Wharves and docks	232,301.20	232,301.20
Total way and structures	57,445,005.32	57,383,041.86
Equipment:		
Pass. cars, buses and trackless trolleys	25,178,391.96	25,292,288.08
Service equipment	891,329.65	949,708.41
Electric equip. of cars and trackless trolleys	8,240,605.80	8,330,577.54
Shop equipment	1,017,697.12	1,006,123.63
Furniture, fare boxes and passimeters	320,034.21	319,531.51
Automotive and miscellaneous equipment	1,351,555.02	1,369,676.00
Total equipment	36,999,613.76	37,267,905.17
Power:		
Power plant buildings	4,421,531.68	4,429,921.62
Power plant equipment	9,827,352.48	9,804,630.93
Transmission system	1,649,235.71	1,648,564.68
Total power	15,898,119.87	15,883,117.23
Construction Work in Progress	534,119.69	538,314.19
Total Road and Equipment Investment	\$110,876,858.64	\$111,072,378.45

BASIC COMPARISONS OF WAGES AND OPERATING EXPENSES

(Per Revenue Passenger, Per Revenue Mile and Percentage of Total Income)

YEARS ENDED DECEMBER 31

Year	PER REVENUE PASSENGER			PER REVENUE MILE			PERCENTAGE OF TOTAL INCOME		
	Wages of Operators and Trainmen	Operating Expenses		Wages of Operators and Trainmen	Operating Expenses		Wages of Operators and Trainmen	Operating Expenses	
		Only	Total		Only	Total		Only	Total
1919	2.11c	4.78c	7.30c	12.77c	28.93c	44.12	23.25%	25.68%	80.34%
1920	2.28	5.13	7.68	14.89	33.52	50.17	22.47	50.59	75.73
1921	2.09	4.62	6.77	14.14	31.25	45.87	21.16	46.77	68.64
1922	1.81	4.14	6.19	12.71	29.13	43.56	19.70	45.18	67.55
1923	1.84	4.25	6.31	13.01	29.96	44.56	20.66	47.58	70.77
1924	1.97	4.53	6.59	13.43	30.95	44.97	22.04	50.79	73.79
1925	1.99	4.64	6.69	13.07	30.48	43.93	21.03	49.01	70.64
1926	2.01	4.77	7.02	12.88	30.54	45.00	21.03	49.88	73.49
1927	1.93	4.57	6.85	12.43	29.48	44.22	20.08	47.61	71.41
1928	1.91	4.60	6.88	12.00	28.96	43.32	19.80	47.78	71.46
1929	1.87	4.54	6.78	11.69	28.39	42.38	19.43	47.20	70.46
1930	1.88	4.63	6.87	11.51	28.30	41.97	19.36	48.80	72.37
1931	1.87	4.63	6.85	11.32	28.08	41.55	20.30	50.38	74.53
1932	1.82	4.59	6.70	10.39	26.15	38.17	20.13	50.67	73.94
1933	1.71	4.26	6.28	9.91	24.72	36.47	18.94	47.22	69.68
1934	1.65	4.09	6.10	9.96	24.73	36.87	18.39	45.66	68.07
1935	1.67	4.19	6.30	10.18	25.54	38.37	18.80	47.17	70.87
1936	1.66	4.17	6.22	10.56	26.56	39.60	18.81	47.31	70.55
1937	1.69	4.29	6.31	10.70	27.16	39.98	19.31	48.99	72.13
1938	1.74	4.43	6.46	11.05	28.15	41.04	19.93	50.80	74.06
1939	1.68	4.33	6.34	10.91	28.02	41.08	19.33	49.64	72.79
1940	1.70	4.40	6.55	11.04	28.50	42.45	18.96	48.96	72.93
1941	1.68	4.32	6.32	11.26	28.99	42.42	18.66	48.02	70.26
1942	1.66	4.09	5.85	11.46	28.14	40.26	18.54	45.54	65.14
1943	1.73	4.28	6.02	12.42	30.73	43.27	19.21	47.53	66.93
1944	1.78	4.57	6.49	12.99	33.40	47.41	19.79	50.90	72.26
1945	1.89	4.90	6.81	14.55	37.69	52.38	21.13	54.72	76.07
1946	2.10	5.34	7.40	16.38	41.74	57.84	23.22	59.16	81.98
1947	2.47	6.22	8.83	17.44	44.00	62.41	24.38	61.50	87.24

COMPARATIVE STATISTICS

	Years Ended December 31	
	1947	1946
Passenger and Traffic Statistics:		
Total income per revenue passenger	10.12c	9.02c
Cost of service per revenue passenger	11.32c	9.66c
Passenger revenue	\$38,224,501.90	\$37,996,894.88
Round trips operated	6,865,321	6,964,652
Average fare per fare passenger	9.82c	8.76c
Revenue passengers per mile operated	7.07	7.82
Revenue Passengers:		
10c Fares	374,175,627	325,087,844
5c Fares	3,842,034	100,932,641
5c Pupils' tickets	9,807,778	6,435,330
Special car and special bus	545,174	485,431
6½c Joint fares	202,609	153,706
Total revenue passengers	388,573,222	433,094,952
Revenue Miles:		
Surface cars	24,026,654	25,124,433
Rapid transit cars	14,299,480	14,420,538
Buses	12,110,226	12,210,365
Trackless trolleys	4,533,452	3,644,947
Total revenue miles	54,969,812	55,400,283
Revenue Hours:		
Surface cars	2,602,653	2,701,379
Buses	1,360,421	1,370,691
Rapid transit cars	950,079	957,871
Trackless trolleys	475,696	388,494
Total revenue hours	5,388,849	5,418,435
Power Statistics:		
Tons of coal burned for power	171,502	157,765
Average price of coal per long ton (at boilers)	\$9.99	\$8.30
Barrels of fuel oil burned	8,913	37,065
Equiv. pounds of coal per D.C. kilowatt hour	1.542	1.485
Net cost of power for car service per D.C. kilowatt hour (cents)	1.254	1.039
Net cost of D.C. power per total car mile (cents)	6.866	5.591
Direct current annual output (kilowatt hours)	251,800,630	249,229,300

METROPOLITAN TRANSIT AUTHORITY

Statement as of December 31, 1947 of outstanding Funded Debt of Metropolitan Transit Authority and Boston Metropolitan District and of portion of Authority Debt for which payment has already been provided Under Chapter 544, Acts of 1947¹

BONDS OF THE DISTRICT HELD BY THE PUBLIC, ISSUED TO SUPPLY FUNDS FOR THE PURCHASE OF BONDS OF THE AUTHORITY

BONDS OF THE AUTHORITY HELD BY THE DISTRICT

Rate	Maturity	Principal Amount Dec. 31, 1947	Principal Amount Unpaid Dec. 31, 1947	Less Sinking Fund Cash held by the District Dec. 31, 1947 For Future Serial Maturities	Principal Amount for which Payment has not yet been provided	Portion of Authority Debt for which Payment has Already been Provided
4½%	Aug. 1, 1949	\$1,581,000.00 ³	\$1,102,000.00	\$290.00*	\$1,102,290.00	\$478,710.00
6%	1971 - 1972	23,430,917.00 ³	12,924,000.00	558,167.50	12,365,832.50	11,065,084.50
6%	June 1, 1976	1,500,000.00 ³	1,013,000.00	32,537.50	980,462.50	519,537.50
5%	Jan. 1, 1960	6,309,000.00 ³	4,339,000.00	430.00	4,338,570.00	1,970,430.00
5%	Mar. 1, 1960	8,500,000.00 ³	6,083,000.00	121,660.00	5,966,340.00	2,533,660.00
4½%	Dec. 15, 1960	7,711,000.00 ³	5,584,000.00	390.00	5,583,610.00	2,127,390.00
4½%	June 1, 1961	3,815,000.00 ³	2,863,000.00	50,400.00	2,812,600.00	1,002,400.00
4½%	Jan. 1, 1962	2,098,000.00 ³	1,586,000.00	1,065.50	1,584,934.50	513,065.50
4¾%	Oct. 1, 1962	4,800,000.00 ³	3,713,000.00	847.50	3,712,152.50	1,087,847.50
3¼%	Nov. 1, 1966	5,000,000.00 ³	4,381,000.00	37.50	4,380,962.50	619,037.50
3¼%	Oct. 15, 1967	8,286,000.00 ³	7,437,000.00	550.00	7,436,450.00	849,550.00
3¼%	Mar. 1, 1969	2,600,000.00 ³	2,443,000.00	27,931.25	2,415,068.75	184,931.25
2⅞%	Aug. 15, 1972	22,863,000.00 ²	22,863,000.00	—	22,863,000.00	—
		\$98,498,917.00	\$76,341,000.00	\$793,726.75	\$75,547,273.25	\$22,951,643.75

¹ Section 7 of Chapter 544 provides, in effect, that bonds of the Authority and bonds of Boston Elevated Railway Company assumed by the Authority are to be cancelled at their respective maturity dates to the extent that bonds of Boston Metropolitan District issued to provide funds for the purchase thereof have been retired, or their retirement provided for, through interest payments made by the Company and by the Authority in excess of amounts required to pay interest on the District's bonds.

² Bonds issued by the Authority.

³ Bonds issued by Boston Elevated Railway, assumed by the Authority.

* Credit.

REVENUE EQUIPMENT ACQUIRED AND RETIRED 1918-1947

Surface Cars	On Hand July 1, 1918	July 1, 1918 to Dec. 31, 1947		On Hand Dec. 31, 1947
		Acquired	Retired	
Semi-convertible cars—type no. 1 to no. 4	453	—	231	222
Semi-convertible cars—type no. 5	—	471	—	471
Semi-convertible cars—type “4000”	—	64	49	15
Center entrance cars	100	305	324	81
Trailer cars	174	50	224	—
P.C.C. cars	—	271	—	271
Birney type cars	1	80	81	—
Articulated cars	177	—	177	—
Box cars	1,113	—	1,113	—
Open cars	1,354	—	1,354	—
	—	—	—	—
Total surface cars	3,372	1,241	3,553	1,060
Rapid Transit Cars				
Elevated cars, wood and steel	169	—	169	—
Elevated cars, steel	162	163	50	275
Camb.-Dorch. tunnel cars, steel	60	95	—	155
East Boston tunnel cars, steel	—	48	—	48
	—	—	—	—
Total rapid transit cars	391	306	219	478
Buses				
Gasoline—mechanical drive	—	1,090	634	456
Gasoline—hydraulic drive	—	115	—	115
Diesel—electric drive	—	24	14	10
Diesel—hydraulic drive	—	2	1	1
Gas-electric drive	—	46	46	—
	—	—	—	—
Total buses	—	1,277	695	582
Trackless Trolleys	—	187	—	187
	—	—	—	—
Totals	3,763	3,011	4,467	2,307

METROPOLITAN TRANSIT AUTHORITY

MILEAGE OF TRACK, BUS AND TRACKLESS TROLLEY ROUTES

DECEMBER 31, 1947

Total surface track owned December 31, 1946			270.302 miles
Additions during the year 1947			0.062 miles
Total			270.364 miles
Removals during the year 1947			16.734 miles
TOTAL SURFACE TRACK OWNED DECEMBER 31, 1947			253.630 miles
Leased from Eastern Massachusetts Street Railway			
Company	22.036 miles		
Leased from the City of Boston	12.481 miles		34.517 miles
Total track for surface cars			288.147 miles
Total track for rapid transit cars—Owned	43.554 miles		
Total track for rapid transit cars—Leased	3.834 miles		52.388 miles
TOTAL TRACK, OWNED OR LEASED			
DECEMBER 31, 1947			340.535 miles
Which is made up as follows:	Surface Lines	R. T. Lines	Total
	Miles	Miles	Miles
Main line tracks	130.467	21.044	151.511 miles
Second tracks	114.884	19.590	134.474 miles
Sidings, carhouse curves, cross-overs, etc.	7.202	2.456	9.658 miles
Tracks in carhouses and yards	35.594	9.298	44.892 miles
TOTALS	288.147	52.388	340.535 miles
Tracks In Subways, Tunnels, R.T.L., Etc.	Surface Lines	R. T. Lines	Total
	Miles	Miles	Miles
Tremont Subway	4.963	—	4.963
East Boston Tunnel	0.406	4.865	5.271
Boylston Subway	5.014	—	5.014
Huntington Avenue Subway	1.688	—	1.688
Cambridge-Dorchester Tunnel:			
Cambridge Tunnel & Inclines	0.723	4.743	5.466
Cambridge Bridge & Elevated Connection	—	1.045	1.045
Cambridge Connection (Beacon Hill Tun.)	—	0.965	0.965
Dorchester Tunnel	—	5.059	5.059
Washington Tunnel and Inclines	—	2.326	2.326
TRACKS IN SUBWAYS AND TUNNELS	12.794	19.003	31.797
East Cambridge Viaduct and Connections	2.619	—	2.619
Elevated Structure & Inclines	—	16.746	16.746
Dorchester Rapid Transit Extension	—	7.341	7.341
Dorchester High Speed Trolley Line	6.460	—	6.460
Carhouses and yards	—	9.298	9.298
TOTAL TRACKS IN SUBWAYS, TUNNELS, R.T.L., on STRUCTURES, ETC.	21.873	52.388	74.261
Bus and Trackless Trolley Route Statistics:			
	Bus	Trackless	
Miles in both directions	170.55 miles	Trolley	31.431 miles
Miles in one direction only	32.76 miles		2.780 miles
Miles of one-way street	203.31 miles		34.211 miles
Miles comparable to miles of single track	373.86 miles		65.642 miles

